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CHEMICAL WEAPONS PROLIFERATION: EXTRATERRITORIAL JURISDICTION AND UNITED STATES EXPORT CONTROLS; WHEN TOO MUCH IS NOT ENOUGH

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I. INTRODUCTION[**]

The 1991 war in the Persian Gulf brought the region to the brink of chemical warfare. Iraqi leader Saddam Hussein's threat to use chemical weapons against coalition forces raised the grim specter of untold casualties in the desert. Not since the gas clouds unleashed in World War I has the world been filled with apprehension at the prospect of such human suffering and death. Questions abounded as to how Iraq could have acquired such an extensive chemical weapons arsenal: How could a state-of-the-art chemical weapons plant have been built? Who aided Iraq and how? Previously published reports resurfaced, pointing to West German firms as the culprits, apparently breaking West German laws cavalierly in search of profits. Closer to home, disturbing reports allege that the United States government condoned the diversion of billions in agriculture credits to Iraq during the 1980s, which were used to finance Hussein's military machine, including purchases for chemical weapons production.

With the crisis now over we would do well to step back from the abyss and take a long, hard look at what forces have brought us to this point and where they might lead us if left unaddressed. This article examines how the United States and the international community can best respond to a terribly complex problem. The first part surveys the history and use of chemical weapons and the factors that are contributing to widening proliferation and continuing scientific and technological developments. The second part examines the failings of various international efforts, in particular the deterrence model of the Geneva Protocol, to

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** In January 1993, a Chemical Weapons Convention ("Draft") was opened for signing. One hundred-twenty countries, including the United States, have signed on. For the Draft to go into effect, 65 countries must ratify it; none have done so thus far. The author urges the United States to do so.

contain such use, and reviews the current status of chemical weapons under international law. The third and fourth parts analyze the difficulties the United States has encountered when applying export controls to counter the chemical weapons dilemma from a legal, political, and economic perspective, especially in the area of dual-use chemical precursors, which have legitimate industrial as well as military uses. The fifth part reviews newer multilateral efforts but rejects these as inadequate to achieve the ultimate objective of preventing chemical warfare. It calls for a total eradication and ban on all chemical weapons, their development, transhipment, and stockpiling, and concludes with a strong recommendation for a multilateral convention that includes mechanisms for independent verification compliance, provisions for collective enforcement, and a harmonized export control regime as the best response to assure global security in this area.

II. CHEMICAL WEAPONS USE AND RESULTING INTERNATIONAL CONCERN

A. History of Use

In 1969, the United Nations defined chemical weapons as chemical substances, whether gaseous, liquid or solid, that are used for hostile purposes to cause death in humans, animals, and plants when the primary effect is direct toxicity.[1] Although chemical weapons are generally thought of as a modern means of waging war, their rudimentary use has been traced back to ancient conflicts.[2] Prior to the first World War, chemical weapons were not seriously considered as a means of warfare as they could neither be produced nor utilized on a large enough scale.[3] But

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1. G.A. Res. 2603, U.N. GAOR, 24th Sess., Supp. No. 30, at 16, U.N. Doc. A/7630 (1969). The U.S. Army defines chemical weapons as a chemical agent intended for use in a military operation that can kill, severely injure, or incapacitate by its chemical properties. *See* W. Hays Parks, *Classification of Chemical—Biological Warfare*, 13 U. TOL. L. REV. 1165, 1165-66 (1982). This interpretation does not extend to riot control agents, chemical herbicides, or smoke and incendiary weapons.

2. In 600 B.C., the Athenian leader Solon was able to defeat an enemy by contaminating the water supply with roots from a poisonous thorn. Phillip L. Reizenstein, *Chemical and Biological Weapons—Recent Legal Developments May Prove to Be a Turning Point in Arms Control*, 12 BROOK. L. REV. 95, 95 n.1 (1986). During the American Civil War it was accepted practice on both sides to contaminate water supplies while retreating. *Id.* At least one commentator has pointed to some evidence that during the Peloponnesian War from 433-404 B.C. pitch and sulphur were burnt together to produce suffocating gases. *See* Joseph B. Kelly, *Gas Warfare in International Law*, 9 MIL. L. REV. 1, 3 (1960).

3. *See* VALERIE ADAMS, CHEMICAL WARFARE, CHEMICAL DISARMAMENT 26 (1990).

during the 1800s, developments in chemistry[4] and in mass production capabilities led to the understanding in the industrialized nations that chemical weapons could well become significant to future wars.[5]

It was not until World War I that chemical weapons became militarily significant because of their ability to cause widespread devastation on the battlefield. With Germany's use of chlorine gas at Ypres in 1915 upon unsuspecting and unprotected enemy troops, chemical weapons came of age as true weapons of mass destruction.[6] The effects of gas poisoning were that opposing troops, forced to inhale the clouds of chlorine which caused their lungs to fill with fluid, choked to death.[7] The horror of such terrifying suffering and death was widely depicted in gruesome news accounts at the time.[8]

After Ypres, the race began to discover means of adequate protection against these noxious gases and, at the same time, to develop other chemicals that were even more effective casualty producing agents.[9] These efforts culminated in the production of mustard gas, a chemical with dual properties. It was persistent, and thus able to remain in lethal liquid form for days or even weeks, and it was a blistering agent capable of

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4. *Id.* at 26-27. Chlorine was a common industrial chemical widely in use by the late 1800s and phosgene was being produced commercially since the mid 1800s. *Id.* at 26.

5. It was the realization of the potential for chemical warfare on a large scale that was the impetus for the Hague Conventions of 1899 and 1907, which prohibited the use of asphyxiating gases in war. George Schultz, Prohibition of Chemical Weapons Conference Held in Paris, Address Before the Conference on the Prohibition of Chemical Weapons (Jan. 7-11, 1989), *in* DEP'T ST. BULL., Mar. 1989, at 4 (noting that the participants of the Hague Conference(s) condemned chemical weapons because "the vicious effects of such weaponry could be anticipated, even though our predecessors of 90 years ago had not yet experienced their destructiveness").

6. William Lawler, *Progress Towards International Control of Chemical and Biological Weapons*, 13 U. TOL. L. REV. 1220, 1221 n.7 (1982) (official reports of gas casualties during World War I were put at 1,300,000, of which 100,000 died).

7. HUGH STRINGER, DETERRING CHEMICAL WARFARE: U.S. POLICY OPTIONS FOR THE 1990S 3 (Institute for Foreign Policy Analysis, Inc. ed., 1986).

8. ADAMS, *supra* note 3, at 25 ("a greenish grey cloud had swept down upon them, turning yellow . . . blasting everything it touched, shriveling up the vegetation . . . [the soldiers] were blinded, coughing, chests heaving, faces an ugly purple colour-lips speechless with agony, and behind them in the gas choked trenches . . . hundreds of dead and dying . . . It was the most fiendishly wicked thing . . . ." (quoting AMOS FRIES & C. WEST, CHEMICAL WARFARE 13)).

9. STRINGER, *supra* note 7, at 4-5 (Gas masks were given to British forces within a few days of the first German chlorine attack. These provided effective protection against chlorine. Thus, faster acting poisons such as phosgene were then utilized.).

penetrating through several layers of clothing.[10] Hence, mustard gas had a significant advantage over chlorine.[11] The effects of mustard gas initially caused eye and throat irritation, and after some hours produced severe eye pain and blistering on areas of the body where contact was made.[12] The lungs would then blister and death would result from severe damage to the respiratory system.[13]

In 1917, again at Ypres, the Germans first used mustard gas shells, and casualty figures climbed dramatically.[14] Although the British and French rapidly produced protective gear against mustard gas, they also began immediate attempts at manufacturing the gas themselves, and by 1918, allied mustard gas became available.[15] Indeed, all sides were simultaneously developing new chemical agents and only because the Armistice intervened was actual usage preempted.[16] By the close of World War I the major industrial powers had chemical weapons arsenals, and some in the military, though still debating the relative utility of gas warfare to produce decisive victory, began to view gas as the weapon of the future capable of neutralizing entire armies without bloodshed.[17]

This was not, however, how the world perceived chemical warfare. The vivid reports from the front of the mass horror and suffering, though sensationalized and used as propaganda as some would argue, made a deep and lasting impression on the international community.[18] From this time

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10. ADAMS, *supra* note 3, at 35.

11. STRINGER, *supra* note 7, at 3-5 (Mustard gas could linger much longer than chlorine, which was nonpersistent and dissipated much quicker. When gas masks were adequate protection against chlorine, mustard gas was able to cause casualties percutaneously, which forced soldiers to apply whole body protection, considerably lessening their mobility and staying power.).

12. ADAMS, *supra* note 3, at 35.

13. *Id.* at 203 (discussing in detail bodily effects of mustard gas).

14. *Id.* at 35 (noting that within two weeks the British suffered casualties of 14,000, excluding those who died in the trenches).

15. *Id.* at 36 (noting that allies produced a Standard Box Respirator, which was effective respiratory protection and a suit that was impermeable to mustard gas but highly cumbersome).

16. *Id.* at 37 (noting that once the United States entered World War I it too was manufacturing mustard gas by 1919).

17. *Id.* at 39, 52. *See also* 5 STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, THE PROBLEM OF CHEMICAL AND BIOLOGICAL WARFARE: THE PREVENTION OF CBW 130-31 (1971) [hereinafter 5 SIPRI] (discussing the humane argument offered after World War I that gas was actually less harmful and caused less suffering than conventional weapons).

18. *See* 1 STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, THE PROBLEM OF

forward, chemical weapons were viewed as beyond any acceptable level of battlefield brutality and somehow inherently immoral. Their loathsome effects were especially feared due to the protracted suffering occasioned by contact. Furthermore, chemical weapons knew no boundaries, and there was much dread that such agents could be used against unprotected civilian populations either by intent or inadvertence.[19] Additionally, the world seemed fearful of releasing an entirely new technological mode of killing with unforeseen consequences, weapons which could conceivably alter even the natural order.[20] Between the two world wars,[21] there were two acknowledged accounts of chemical weapons usage.[22] At the outbreak of World War II, after Hitler threatened that gas attacks would meet with retaliation in kind,[23] exchanges of mutual pledges to observe the Geneva Protocol of 1925 were given by the French, Italian, British and German powers. It appears that these mutual pledges, kept throughout the war were

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CHEMICAL AND BIOLOGICAL WARFARE: THE RISE OF CB WEAPONS 233 (1971) [hereinafter 1 SIPRI]. The International Red Cross voiced its concern in 1918 when it protested vigorously against such warfare, and stated it could "only be described as criminal." *Id.*

19. ADAMS, *supra* note 3, at 51 (noting that there were claims by the British that a single bomb dropped in London would kill all within a wide distance, and a British General, Sir Reginald Hart, was quoted as saying "in any future war, large cities and extensive areas with men, women and children would be annihilated. Millions of lives would be lost in a few hours by a gas bomb attack").

20. Paul Cassell, *Establishing Violations of International Law: 'Yellow Rain' and the Treaties Regulating Chemical and Biological Weapons*, 35 STAN. L. REV. 259, 261-62 (1983); *see* discussion *infra* part III. From this global apprehension came the Geneva Protocol of 1925, which prohibited the first use of lethal asphyxiating gases. Cassell, *supra*.

21. *See* JAMES M. SPAIGHT, AIR POWER AND WAR RIGHTS 192-93 (3d ed. 1947), *cited in* William V. O'Brien, *Biological/Chemical Warfare and the International Law of War*, 51 GEO. L.J. 1, 34 n.88 (1962). Italy admitted it used poison gas in its war against Ethiopia, but since the conflict was limited, it was treated by the international community as an aberration. *Id.*

22. Howard S. Levie, *Humanitarian Restrictions on Chemical and Biological Weapons*, 13 U. TOL. L. REV. 1192, 1195 (1982). Numerous accusations that Japan used gas several times against the Chinese in the late 1930s were never challenged by Japan. *See* 2 STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, THE PROBLEM OF CHEMICAL AND BIOLOGICAL WARFARE: CB WEAPONS TODAY 125-228 (1971) [hereinafter 2 SIPRI] (detailing alleged instances of chemical-biological weapons use from 1914-1970).

23. George Bunn, *Banning Poison Gas and Germ Warfare: Should the U.S. Agree?*, 1969 WIS. L. REV. 375, 381-82. Similarly, the U.S. did not use chemical weapons when it entered World War II, but it did declare that it would do so to retaliate against a first strike. Franklin D. Roosevelt, Use of Poison Gas: Statement by the President (June 12, 1943), *in* DEP'T ST. BULL., June 1947, at 507.

based, in retrospect, upon the lack of preparedness of each belligerent as well as the lack of knowledge as to what chemical weapons were available to other belligerents.[24]

Beyond the constraints of unpreparedness and fear of overwhelming retaliation, there was a real unease and distaste for chemical weapons among many militarists, and as stated above, hostile public opinion further impeded the development and amassing of chemical weapons between the wars.[25] Finally, there was the prohibition against first use of lethal chemical warfare under international law pursuant to the Geneva Protocol, which was in the main a result of the strong negative sentiment of both the public and military factions.[26]

Given these constraints, first use of lethal chemical weapons in war would not only subject a nation to possible retaliation, but would have indicated to the world that the user was willing to pursue war aims "with extreme measures."[27] This alone would have lead to anticipation of an extreme response, which would serve to constrain further an initiation of chemical agents into battle.[28] It appears, then, for all these reasons, the major belligerents were deterred from introducing chemical weapons into the conflict.

B. Modern Practice

As seen from history, chemical weapons were not decisive in gaining complete victory, but rather held a tactical military advantage: they engendered a substantial psychological or 'shock effect'; they were

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24. *See* 5 SIPRI, *supra* note 17, at 22. Though the element of surprise may be an effective tactic in the first instance of chemical weapon use, there were no reliable means to ascertain if retaliation would occur and in what manner and degree.

25. *See id.* at 21-25.

26. *See* discussion *infra* part III. Beyond the Geneva Protocol's prohibition against the first use of lethal chemical warfare, many argue that it was precisely this built-in deterrent that prevented the actual use of chemical weapons in World War II. *See* John N. Moore, *Ratification of the Geneva Protocol on Gas and Biological Warfare: A Legal and Political Analysis*, 58 VA. L. REV. 419, 452 (1972). Despite Germany's discovery of nerve gas in the late 1930s and its later production by 1942, Germany was deterred from using the gas because it thought it was behind the Allies in chemical warfare technology. *See* ADAMS, *supra* note 3, at 59; *see* Parks, *supra* note 1, at 1172. The Soviets believed that Hitler was deterred because the Soviets had developed extensive chemical weapons after World War I and were well prepared for chemical warfare. *See* C. J. Dick, *Soviet Chemical Warfare Capabilities*, 14 INT'L. DEF. REV. 31 (1981); *see also* ADAMS, *supra* note 3, at 64.

27. Dick, *supra* note 26.

28. *Id.*

difficult to defend against; and as with mustard gas, they could cause severe casualties over extended time periods.[29] Their value, then, can be viewed as dependent upon the degree to which any particular chemical agents display these characteristics and to the extent to which the user can successfully manipulate them. Moreover, chemical weapons had historically been used only when an imbalance in military capabilities existed between adversaries, as in World War I.[30] Several recent conflicts appear to bear out the proposition that chemical weapons have been used when only the user had the requisite capability.[31]

1. The Iran-Iraq War

During the Iran-Iraq War, from 1980-1987, Iraq began using lethal chemical munitions on an intensive and systematic basis.[32] By 1984, there were confirmed reports by United Nations observers that Iraq was using mustard gas as well as the nerve agent Tabun.[33] By 1987, the United Nations documented additional findings that Iraq had expanded its

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29. ADAMS, *supra* note 3, at 9, 35.

30. Parks, *supra* note 1, at 1173.

31. The Soviet Union is alleged to have resorted to chemical/biological warfare, the so-called "Yellow Rain," after its invasion of Afghanistan in 1979 and through use of its proxy in Laos and Kampuchea (Cambodia) in the late 1970s. Parks, *supra* note 1, at 1173 n.24; *see "Yellow Rain": Hearings Before the Subcomm. on Arms Control, Oceans, International Operations and Environment of the Senate Comm. on Foreign Relations*, 97th Cong., 1st Sess. 13 (1982); Cassell, *supra* note 20, at 264 nn.21, 22 (describing reports of aerial bombardments with weapons that release yellow or orange clouds of poison, which fall like rain and allegedly cause dizziness, violent vomiting, and diarrhea and kills by inducing massive hemorrhaging); *but see* Matthew Meselson & Julian P. Robinson, *Chemical Warfare and Chemical Disarmament*, SCI. AM., Apr. 1980, at 38, 44 (arguing that no chemical/biological weapons were used by the Soviet Union); Levie, *supra* note 22, at 1196-97 (noting that Egypt is alleged to have used mustard and possibly nerve gases against villages in the Yemen Civil War of 1967). There are also unconfirmed reports of alleged United States use of chemical warfare in the Korean conflict from 1950 to 1953. *See* Moore, *supra* note 26, at 437-38. During the Vietnam War, the use of defoliants and incendiary weapons by the United States were thought to be in violation of the Geneva Protocol. *Id.* at 439-42. The position of the United States was that such chemical agents were not subject to the constraints of the Protocol. *See id.*

32. ADAMS, *supra* note 3, at 85-86.

33. Tabun is a nerve agent that interferes with the blocking action of the human nerve enzyme cholinesterase, which in turn affects the central nervous system. Symptoms of Tabun exposure include cramps, vomiting, dizziness, convulsions, and finally death due to anoxia. *See* STRINGER, *supra* note 7, at 5-6; ADAMS, *supra* note 3, at 203 (noting that inhalation of high concentrations of Tabun can kill in less than one minute).

chemical weapons use to include civilian targets within Iran along with continued use against Iranian troops. Yet such attacks continued despite increasing world condemnation.[34] Then, in 1988, western journalists reported that Iraq had showered unprotected Kurds in northern Iraq with cyanide and other lethal chemical agents.[35] Film footage and headline photos of slain Kurds—men, women and children, bodies strewn in the deserted streets of their villages—sent a collective gasp of horror throughout the world. However, while such acts caused international outrage, there was no further condemnation nor were any sanctions called for by the international community.

The experience of recent conflicts, and, in particular, of the Iran-Iraq War, seems to bear out the lesson of previous historical use of chemical warfare: *si vis pacem, para bellum.*[36] When there is an existing imbalance between belligerents, as with the Iranians who were ill-prepared and ill-equipped to meet the threat or retaliate, then lethal chemical weapons can have a useful military purpose, although still not a decisive factor in achieving victory. It also suggests that international law has been particularly inadequate in preventing chemical warfare where such an imbalance exists. More troubling still is the weak international response to Iraq's aggression of first use of lethal chemical weapons, which may well have lead to Iraq's gassing of its own civilian population, for Iraq could hardly expect a challenge to its internal use of lethal chemical munitions when its external aggression had merely received moral opprobrium from the world.[37] By its very lack of will, the international community seems to have created what it has so long dreaded, an obliging atmosphere where lethal chemical weapons can be turned against civilian populations, where incentives can outweigh constraints.

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34. ADAMS, *supra* note 3, at 87. The U.N. Security Council, in Resolution 582, condemned the use of chemical weapons in the war, but did not explicitly refer to Iraq as a violator. *Id.*

35. ADAMS, *supra* note 3 at 87-88. *See Guess Who's Still Running Iraq*, ECONOMIST, Apr. 6, 1991, at 39 (citing Iraqi Air Force killings of Kurds with cyanide gas at Halabja and other villages at the end of the Iran-Iraq war, nearly three years earlier).

36. To keep the peace, prepare for war.

37. *See Guess Who's Still Running Iraq, supra* note 35, at 39 (Iraq again used chemical weapons against its civilian population to put down the insurrection by the Kurds and Shiite nationals in the aftermath of the Persian Gulf War. There was a mass exodus of upwards of 1,000,000 Kurds from northern Iraq who fled for their lives in response to fears of renewed lethal gassing by the Iraqi Army). Don Oberdorfer, *Baghdad's Conspiracy View of Recent History*, WASH. POST, Feb. 16, 1991, at A12 (reporting that Saddam Hussein had made a speech April 2, 1990, threatening to "burn half of Israel" with chemical weapons if Israel attacked Iraq).

2. Scientific Advances Post-World War II

Nerve agents still represent the most toxic chemical agents capable of managed deployment on a large-scale.[38] Since the 1950s, there has been some development of what are termed "incapacitating agents," which are intended to produce temporary disability and may persist for several hours or days after exposure has ceased.[39] However, the actual known effects of incapacitants on the central nervous system[40] have been too unpredictable to be a viable military option, at least to date.[41] These agents are also viewed as fundamentally inadequate compared to nerve agents: they take longer to produce casualties the severity of which is less predictable; they are easier to protect against; and they are more expensive because higher doses are required.[42] Still, the potential for new, more effective chemical agents may be close at hand as toxins, which are natural occurring poisons, are increasingly being developed through biomedical research.[43]

A development of more immediacy in the area of nerve agents is the binary weapon, which has been developed, according to official statements, by the United States in response to the Soviet chemical weapons build-up.[44] The binary weapon's munitions casing holds two separate canisters,

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38. STRINGER, *supra* note 7, at 24-25.

39. UNITED STATES DEPARTMENT OF THE ARMY, FIELD MANUAL NO. 3-9, 3-15 (1975), *cited in* STRINGER, *supra* note 7, at 25.

40. Like nerve agents, incapacitating agents are categorized as casualty agents, as both are intended to produce sufficiently prolonged disablement so that enemy forces would become incapable of resisting. *See* 5 SIPRI, *supra* note 17, at 33, 47. Such incapacities might induce affects like paralysis, temporary blindness, mental disorder, or recurring fainting spells. *Id.* The rationale was that nonfatal casualties produced by incapacitants would be more burdensome on enemy resources. It was also envisioned that this might allow large-scale military operations to be conducted in heavily populated civilian areas with nonlethal affects; the danger of killing is not more than one to two percent. *Id.*

41. *Id.* at 33. One such chemical developed for the United States was 3-quinuclidinyl benzilate [BZ], a psychochemical that gives rise to a combination of mental and physical disabilities that become manifest within a few hours but can last two days or more. *Id.*

42. *Id.* at 48.

43. Jonathan B. Tucker, *Gene Wars*, *in* 57 FOREIGN POL'Y. 58, 65 (Winter 1984-85) ("while only four major types of nerve gas are currently stockpiled, toxins abound naturally and new types with bizarre properties continue to be discovered—thanks in part to the growing use of toxins for peaceful applications, such as cancer therapy and biomedical research . . . gene-splicing could be employed to engineer modified toxins that are more stable . . .").

44. The United States has been the only nation to openly declare its ability to produce

each in turn holding chemicals, though not toxic independently, but when mixed at bombing create deadly nerve gas.[45] Because nerve agents are highly toxic, there has been a great deal of attendant hazard possible in unitary munitions.[46] This, in turn, fueled research to develop a binary weapon which could exploit the capacity of nerve agents that were too unstable to be stored for any length of time in unitary munitions and that could decrease the hazard of production, storage, and handling of intensely poisonous chemicals.[47]

This obviously creates the potential for increased proliferation of deadly chemical agents inasmuch as the technology now exists to combine hitherto non-toxic chemicals into highly toxic agents when mixed.[48] Moreover, there is nothing under international law forbidding such development, production, or stockpiling.[49] In fact, there has already been considerable proliferation in the form of dual-use chemicals, termed precursors, which when combined form casualty agents, but standing alone can have perfectly legitimate industrial uses. Key precursors for nerve agents all have various uses in the petro-chemical and pharmaceutical industries, such as in manufacturing pesticides, fertilizers, plastics, fire retardants, and germicides.[50] Furthermore, the state of commercial

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binary weapons. *See* John G. Kester, *The Chemical Warfare Review Commission—Two Years Later, in* CHEMICAL WARFARE POLICY: BEYOND THE BINARY PRODUCTION DECISION 1, 4 (Brad Roberts ed., 1987); *see generally* HOUSE COMM. ON FOREIGN AFF., 99TH CONG., 2d SESS., BINARY CHEMICAL WEAPONS, SELECTED DOCUMENTS. The "Big-Eye Bomb" and the 155mm artillery shell are scheduled for production but actual funding has been withheld to date by Congress. Kester, *supra.*

45. ADAMS, *supra* note 3, at 150.

46. *See* 2 SIPRI, *supra* note 22, at 270-71.

47. *Id.* at 307.

48. *Id.* (There is the added attraction of easier availability as well, since a nation's civilian industry could produce individual chemical agents in a normal industrial setting without fear of hazard.).

49. The General Protocol forbids the first use of lethal chemical weapons in war. *But see* ADAMS, *supra* note 3, at 156-66, 210-16 (There is a controversy among NATO member-nations regarding United States deployment of binaries in NATO countries. Congress put conditions on spending funds for United States binary munitions, whereby the President had to certify to Congress that NATO members would formally allow binary weapons on NATO soil. Some NATO members refused, for example, Norway claimed it did not want to undermine the Geneva Protocol and that overrode any concern of a Soviet threat. Thus, to date binary weapons have not been deployed in Europe by the United States or NATO members.).

50. ADAMS, *supra* note 3, at 188 (Nontoxic chemicals used in manufacturing mustard gas ethylene and ethylene oxide also have legitimate industrial uses. Phosgene, hydrogen cyanide, cyanogen chloride, and chlorine are dual-purpose. Precursor nerve agents include

chemical production today is quite diverse, and is expanding, with recent estimates of over 30,000 private production facilities operating worldwide.[51] Finally, considerable global competition spurs on chemical companies to constantly create new products and processes at a rapid technological pace, which naturally creates a greater likelihood of discovery of new precursors that could ultimately be turned to military uses.[52]

C. *The Increasing Global Concern*

> We cannot delay. Time is not on our side. Technology is not stagnant. Ever more lethal and insidious chemical weapons are being developed—weapons which defeat defenses and are devastating in their effects. The ability to produce such weapons is rapidly spreading . . . [and] [n]one of us can escape the consequence of chemical warfare.[53]

Then United States Secretary of State, George Schultz, sounded this warning in his address at the Paris Conference on the prohibition of chemical weapons in January of 1989.[54] In retrospect, after the threat of massive chemical warfare in the Persian Gulf War, these words have a most ominous portent. It seems that just as the world has gained some security in nuclear arms control, it is "mocked by the spread of chemical

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phosphorous trichloride, phosphorous oxychloride, and methyl, which all have a variety of uses in the petro-chemical and pharmaceutical business and can be produced in civil chemical plants engaged in legitimate production for civilian purposes.). *See* David A. Koplow, *Long Arms and Chemical Arms: Extraterritoriality and the Draft Chemical Weapons Convention*, 15 YALE J. INT'L L. 1, 31 n.128 (1990) (Ethylene is one of the most basic of industrial chemicals in the world. It has an annual production of over 50 million tons and is used to make plastics as well as being a precursor for mustard gas.).

51. 135 Cong. Rec. H4390 (daily ed. July 27, 1989) (statement of Rep. Porter), *cited in* Koplow, *supra* note 50, at 32 n.131.

52. 1 SIPRI, *supra* note 18, at 36 n.22, *cited in* Koplow, *supra* note 50, at 33 n.139 (noting that the chemical industry is research-intensive with some sectors devoting 10% or more of sales revenue to research into new products and processes).

53. Schultz, *supra* note 5, at 5 (It is the official position of the United States to call for a convention to ban all lethal chemical weapons, including their development and stockpiling.).

54. *Id.* at 4 (In response to overtures by President Reagan the parties to the Geneva Protocol and other representatives of more than 100 nations convened in Paris for a week-long conference to discuss the problem of chemical weapons proliferation.).

weapons."[55] Several factors account for their continuing use and proliferation. To begin, the increased use of chemical weapons in conflicts following World War II indicates that nations are more willing to violate international law if a benefit is perceived as outweighing any potential backlash. Thus, erosion of the Geneva Protocol remains unabated.[56]

There is the difficulty of determining whether or not chemical weapons have actually been deployed, which also has led to a certain loosening of international norms. It is far easier to use chemically lethal agents surreptitiously if it cannot be verified that such weapons have been used.[57] Even when conclusive evidence of such use has been independently established, as with United Nations observers during the Iran-Iraq war, the international community has taken no meaningful action, and has relied solely on public condemnation for containment. Yet such practice lends credibility to those nations wishing to develop and stockpile their own chemical weapons arsenal, whether to avert a first strike potential, as in World War II, or for more sinister aims. Either motive objectively fosters a climate whereby newer, more exotic lethal agents can be borne which will breed increasing global instability.

Moreover, the degree of military power imbalances in a world of nation-states can only contribute to international apprehension that a particular state may view chemical warfare as an attractive military option, particularly against a weaker neighbor.[58] Also, to the extent nuclear weapons are not an option in limited conflicts, chemical warfare may be a viable alternative.[59]

There is also an expanding worldwide capacity for the manufacture of lethal chemical agents. Indeed, these chemicals have become technologically easy and relatively inexpensive to produce compared with conventional weaponry.[60] Small levels are now quite deadly because of

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55. *Id.* at 5.

56. *See* discussion *infra* part III.

57. *See* Cassell, *supra* note 20 (arguing that because false allegations cannot be disproven and true allegations cannot be verified, it leaves an unstable and dangerous global environment; thus a permanent international organization is needed to establish an independent, reliable verification mechanism).

58. Commentators have argued that some chemical munitions would indeed furnish a highly effective means of warfare. *See* O'Brien, *supra* note 21, at 14; *see* Joseph D. Douglass, Jr., *The Challenge of Bio-Chemical Warfare*, 3 GLOB. AFF. 156, 158 (1988) (arguing from a military perspective that it is better to incapacitate enemy troops thereby tying up their resources rather than to kill the enemy outright); *see supra*, note 40.

59. ADAMS, *supra* note 3, at 9-10 (discussing military requirements for successful use of chemical agents in warfare).

60. Douglass, *supra* note 58, at 157-58; Livingstone & Douglass, *CBW: The Poor*

the tremendous increase in potency. Further chemical precursors, many common in commercial uses, have made it substantially easier for less developed nations, particularly rogue nations like Iraq and Libya, to procure precursors clandestinely on the world market and then proceed to gain chemical weapons capabilities.[61] Thus, when economics bar lesser developed countries from obtaining highly sophisticated conventional arms or nuclear arms, a relatively small investment in chemical arms can translate into power that is out of proportion to a state's wealth or international standing.[62] Some commentators have gone so far as to dub chemical weapons the "'Poor Man's' Atom Bomb."[63] In the hands of

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Man's Atom Bomb, INST. FOR FOREIGN POLICY ANALYSIS, NATIONAL SECURITY PAPER 1 (Feb. 1984), *cited in* Koplow, *supra* note 50, at 14 (discussing expert estimates of the cost of large-scale military operations against civilians: $2000 per kilometer with conventional arms, $800 with nuclear arms, $600 with nerve gas, and $100 with biological weapons).

61. *See* Marshall Silverberg, *International Law and the Use of Force: May the United States Attack the Chemical Weapons Plant at Rabta*, 13 B.C. INT'L & COMP. L. REV. 53, 77-79 (1990) (Evidence existed that during the 1980s, West German chemical firms knowingly helped Libya to build a large chemical weapons production facility at Rabta, which President Qadhafi claimed was a pharmaceutical facility. At first the West German Government denied any firms were so involved but by 1989 it confirmed some West German firms, including Imhausen-Chemie, did help build the chemical weapons plant.). *See* Robert J. McCartney, *Bonn Links 2 Firms to Unauthorized Exports to Libya*, WASH. POST, Jan. 12, 1989, at A29; Tyler Marshall, *3 Germans Sentenced in Chemical Arms Case*, L.A. TIMES, Oct. 10, 1991, at A16 (reporting that a Berlin court sentenced three chemical company executives to jail terms and fines for their roles in illegally exporting components of a factory capable of producing poison gas). *See also* Stephen Engelberg & Michael R. Gordon, *India Seen as Key on Chemical Arms*, N.Y. TIMES, July 10, 1989, at A1 (reporting that private Indian firms have sold large amounts of chemicals that may be useful for chemical weapons to Iraq, Iran, and Egypt).

62. *See* 1 SIPRI, *supra* note 18, at 153. To the extent that manpower determines the outcome of battle, chemical arms have appeal since they may well mitigate this imbalance.

63. *See* Koplow, *supra* note 50 (The latest United States official estimates of countries having offensive chemical weapons capabilities, though variations exist among different United States agencies, list between 14 to 20, including Iraq, Indonesia, and Thailand. At least four of these countries have been longstanding recipients of United States military aid; these states are Egypt, Israel, Pakistan, and South Korea. Additional states that may possess offensive chemical weapon capabilities are South Africa and Saudi Arabia. Ten other nations are suspected of seeking to acquire chemical capabilities.); R. Jeffrey Smith, *Confusing Data on Chemical Capability: U.S. Intelligence, Diplomatic Lists of Armed Nations Differ*, WASH. POST, Mar. 15, 1991, at A21; *see* Koplow, *supra* note 50, at 14 n.46 (Varying estimates as to which states actually possess chemical arms, which are attempting to develop them and which have the industrial and technological foundation to develop them in the future. There is a clear trend that numbers are rising with common estimates ranging from 13 to 16 states, including the United States, the Soviet Union, France, China, Israel, Egypt, North Korea, Syria, Libya, Iraq, East Germany, Vietnam, Czechoslovakia,

terrorists or other fanatical groups, the scenarios for using or threatening to use chemical arms are only as finite as our collective imaginations.

Thus, the relative accessibility and reduced cost of producing chemical weapons of mass destruction, their flexibility in modern warfare, the difficulty in verifying deployment in a given circumstance, and the reality that such arms have been used by nations against weaker opponents in violation of the Geneva Protocol, clearly demonstrates a present danger to world peace and security. It is doubtful that any of these factors alone has caused the continuing use and proliferation of lethal chemical weapons; it is rather more probable that all have contributed in some degree to the current climate. What can be said with more assurance is that the international regime now in place has become ineffective and is a poor guarantee for future global stability.

III. THE INTERNATIONAL RESPONSE AND ITS INADEQUACIES

The international community has grappled with chemical weapons for more than a hundred years. There has been a series of attempts to proscribe behavior on the use of such arms, culminating in the Geneva Protocol of 1925, but as of yet, none have adequately contained use, and the Protocol is dangerously inadequate to contain modern proliferation.

A. Early Efforts

The Declaration of St. Petersburg of 1868 prohibited both the infliction of superfluous suffering in battle and the use of arms that would make death inevitable.[64] It is considered the genesis of international attempts to ban lethal chemical warfare because it equated their effect in battle to "useless aggravation of sufferings of disabled men. . . ."[65] The

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Poland, and Ethiopia.); *see* Michael Satchell & Elizabeth Blaug, *A Plague of "Hellish Poison,"* U.S. NEWS & WORLD REP., Oct. 26, 1987, at 30; Gary Thatcher, *Poison on the Wind, Part I: The Poisons Spread*, CHRISTIAN SCI. MONITOR, Dec. 13, 1988, at B8-9; John M. Goshko, *Egypt Acquiring Elements of Poison Gas Plant*, WASH. POST, Mar. 11, 1989, at A20; *N. Korea No. 3 in Chemical Weapons*, WASH. TIMES, Jan. 13, 1989, at A9 (noting that other states that may already possess chemical arms or are thought to be trying to acquire them include South Africa, Pakistan, India, Nicaragua, Peru, Bulgaria, and Sudan).

64. O'Brien, *supra* note 21, at 17-18 n.43 (listing adherents to the declaration).

65. *See* 3 STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, THE PROBLEM OF CHEMICAL AND BIOLOGICAL WEAPONS: CBW AND THE LAW OF WAR, app. 3, at 151

Brussels Conference in 1874 was the first multilateral convention to forbid the use of poison or poisoned weapons and the employment of arms, projectiles or materials calculated to cause superfluous injury.[66] As industrialization advanced and discoveries such as chlorine and phosgene became known, international efforts sought to ban chemical warfare. Through the Hague Conferences of 1899 and 1907, industrial nations circumscribed the laws of war to preclude unlimited means of injuring the enemy and signatories undertook "to abstain from the use of projectiles, the sole object of which is the diffusion of asphyxiating or deleterious gases."[67]

The widespread use of poisonous gases in World War I engendered universal abhorrence of what had become weapons of mass destruction.[68] In the aftermath, efforts were undertaken to ban completely chemical warfare, but the victorious allied nations balked, pointing to the failure of the Hague Conventions to prevent chemical warfare and to the perceived impossibility of accurately verifying compliance of a similar ban.[69] Rather, the Allies declared that national security demanded that they be free to maintain chemical weapons as insurance against a first strike.[70] Thus, when the Treaty of Versailles, which formally ended World War I, was concluded in 1919, only defeated Germany was prohibited under Article 171 from the use, manufacture, or importation of asphyxiating or poisonous gases.[71] Still, the Versailles Treaty did establish limited precedent for the concept in international law of the illegality of chemical arms *per se*.[72]

(1973) (wherein the parties would refrain from using projectiles against one another that were charged with fulminating or inflammable substances).

66. *Id.* at 151-52; *see* Koplow, *supra* note 50, at 16 n.50.

67. First International Peace Conference, The Hague, 1899, *in* 1 AM. J. INT'L L. 157 (1907); Second International Peace Conference, The Hague, 1907, *in* 2 AM. J. INT'L L. 90 (Supp. 1908).

68. *See* discussion *supra* part II.

69. ADAMS, *supra* note 3, at 45.

70. *Id.* at 45; *see supra* note 26 and accompanying text.

71. Treaty of Versailles, June 28, 1919, art. 171, *reprinted in* 2 BEVANS 43, 119 (1969); *see* Moore, *supra* note 26, at 431 (noting that the United States was not a signatory, mainly due to the Senate's disapproval of certain unrelated League of Nations provisions).

72. Though never ratified, the Treaty of Washington of 1922 borrowed much of the language of the Versailles Treaty and went even further by condemning chemical warfare; its prohibition on use was to be universal and binding on all civilized nations. Treaty Between the United States of America, the British Empire, France, Italy, and Japan Relative to the Protection of the Lives of Neutrals and Non-combatants at Sea in Time of

B. The Geneva Protocol of 1925

The Geneva Protocol of 1925 is viewed generally as the most definitive international effort at banning the use of lethal chemical warfare.[73] The Protocol prohibits the use of lethal chemical arms, but not their production, transshipment or stockpiling. Thus, it follows the earlier conventions that ban usage, but stops short of a more comprehensive ban as the Versailles Treaty dictated to Germany. In fact, the United States refused to sign the Protocol, at least in part, because it did not prohibit export of lethal chemical weapons, and hence was of questionable viability.[74] The Protocol is also constrained in other significant respects; a party upon ratification or accession can reserve to be bound only as to other states parties, and many states have qualified compliance insofar as the Protocol would cease to be binding as against belligerents who resorted to lethal chemical warfare.[75] Hence the Protocol is widely regarded as a prohibition against lethal first use in warfare only.[76] The Protocol has failed to address or anticipate the scientific and technological advances made since 1925—the blossoming of commercial precursors, which can become deadly weapons of mass destruction, are left to control by moral persuasion.[77] This hardly fosters an atmosphere of mutual forbearance since no one state can ever be sure as to what other states, parties or not, might possess. Moreover, with changes in national governments no nation can ever be entirely confident that today's ally will not be tomorrow's foe.[78]

A separate problem concerns the scope of the Protocol. Over the years there has been considerable disagreement as to which chemical agents should be classified as weapons and, therefore, prohibited.[79] With

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War and to Prevent the Use in War of Noxious Gases and Chemicals, Feb. 6, 1922, 3 *Treaties Conventions Int'l. Acts, Protocols and Agreements* 3116 (Redmond ed., 1923).

73. Reizenstein, *supra* note 2, at 95, 101.

74. *See id.* at 101 (the position of the United States was that the Protocol did not go far enough as it did not prohibit export of chemical warfare agents).

75. S. MURPHY & A. HAYS, NO FIRE, NO THUNDER: THE THREAT OF CHEMICAL AND BIOLOGICAL WEAPONS 87 n.24 (1984), *cited in* Koplow, *supra* note 50, at 17 n.59 (Thirty states have attached reservations to preserve the right to retaliate against the use of chemical weapons, including the United States.); *see* Parks, *supra* note 1, at 1170-71.

76. Moore, *supra* note 26, at 449.

77. *See supra* part II.

78. Through a joint-stock company, Germany and the Soviet Union together manufactured chemical weapons for themselves between the two world wars. *See* Levie, *supra* note 22, at 1194 n.13.

79. Moore, *supra* note 26, at 429 (noting that the United States refused to ratify the

the advent of incapacitating agents and the possibility of new, more deadly chemical agents on the horizon, disputes among signatories will continue without a mechanism in place for the international community to cope effectively.

Lastly, the Protocol provides no regime for verification, enforcement, or dispute resolution. As one might expect, such inadequacies have allowed nations to use lethal chemical arms, at least against lesser foes, with impunity. And because it is lawful under the Protocol to develop, produce, and export such weapons, it invites continued development.[80]

These early efforts evince a recognition by the international community that chemical warfare is inherently inhumane and immoral and that the civilized world should join to prohibit the use of weapons that inevitably lead to unnecessary suffering and death; and which may permanently damage or alter the natural order. Yet nations with the capacity to produce chemical arms have been unwilling to surrender a military advantage. Here real 'politick' has prevailed over the greater interest of global peace

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Protocol for fifty years because of a dispute over whether the irritants, such as tear gas, defoliants, and herbicides, were covered under the Protocol).

80. The United States itself has had a checkered chemical weapons policy. After World War II, the United States developed nerve gases and in 1965 Congress authorized $129 million for research and development. *See* ADAMS, *supra* note 3, at 147, 148. But by 1969, the research and development efforts of the United States were at a virtual standstill as President Nixon renounced the use of biological weapons under any circumstances and affirmed the commitment of the United States to a "no first use" policy for chemical agents and incapacitants. *See* Moore, *supra* note 26, at 420. By the late 1970s, the United States became apprehensive that the Soviets had massive chemical arms capability. By 1982, President Reagan requested funds for upgrading research into binary weapons. *See* ADAMS, *supra* note 3, at 155-56 (By 1984 the Chemical Warfare Review Commission was named to review the policy of the United States. In 1985, the commission concluded that the Soviet Union's chemical warfare capabilities posed a substantial threat; therefore, the United States needed to update its old, inadequate stockpile of chemical weapons. The Commission found that binary weapons were the best option. Production of binary weapons began in 1987.); *see Army Begins Producing CWs, Ending 18-yr. Moratorium*, WASH. POST, Dec. 17, 1987, at A30; *see* Koplow, *supra* note 50, at 11 n.33 (detailing amount of chemical weapons the United States has in storage, both within and beyond United States territory); *see also* Max L. Friedersdorf, Chemical Weapons Disposal Program, Address Before the Conference on Disarmament at Geneva (Apr. 4, 1989), *in* DEP'T ST. BULL., June 1989, at 19 (describing the unitary Chemical weapons disposal program of the United States; fifteen million pounds of chemical weapons had been destroyed from 1970-77, and a new destruction site began operating at Pine Bluff, Arkansas in May, 1989.); *see also* Koplow, *supra* note 50, at 13 n.39 (The Soviet Union had officially stated it had a CW stockpile of 50,000 tons, which was about the size of the stock of the United States.). In January 1989, the Soviet Union declared it had stopped production of chemical weapons and soon began destroying its own stock. *See Moscow Announces Chemical Arms Cuts*, WASH. POST, Jan. 9, 1989, at A1.

and security because nations historically have looked upon the ability to retaliate against a first strike as imperative. Without such an ability, the threat to national sovereignty and security is continual and, consequently, destabilizing. The deterrence model of chemical arms control is premised on nations being sufficiently deterred from first use only if they know or believe that their adversary has a credible chemical arsenal. World War II and the recent Persian Gulf War are proof of this premise. Hence, it would appear that the best way to ensure that lethal chemical weapons will not be used during hostilities is to allow nations to maintain updated stockpiles, as provided in the Geneva Protocol. If, on the other hand, chemical weapons are totally eliminated, a climate will be created for their surreptitious use by stronger nations against weaker rivals, as illustrated by the Iran-Iraq conflict.

However, the rationale for maintaining a credible defensive capability to avert a first strike seems inadequate when applied to chemical weapons (as opposed to conventional weapons) on at least three grounds. First, it fails to account for the fact that conventional arsenals can stand as an equal, if not greater, deterrent. Unlike a first strike with nuclear weapons, which would result in a definitive victory, chemical arms are as yet incapable of providing such a decisive blow from a first strike posture. Therefore, merely updating conventional weapons can be adequate to prevent a first strike, at least for nations like the United States. Second, chemical weapons are unique. Like biological weapons, they possess a development potential that could change the global landscape far in excess of dual-use precursors or binary weapons, which are already destabilizing in their potential effects. To permit the unfettered continuation of research and development to maintain defensive chemical capacities, especially when defensive needs can be met by conventional arms, hardly seems to outweigh the risks of such scientific advances. Third, while according to the deterrence model of the Geneva Protocol first strikes should be prevented, the fact is that there has been infrequent but continuing surreptitious first use by more militant states against lesser foes. There is no evidence that deterrence advocates can point to that would show that a total ban on chemical weapons would result in an increased rate of clandestine usage. In all likelihood, no arms control regime can entirely constrain nations bent on such usage, but in assessing the overall risks to global stability, a total ban appears the best means to promote greater international security.

C. Other Efforts

Even though its resolutions are not binding, the United Nations has played a role in attempting to eradicate chemical warfare, chiefly through frequent protestations that all states accede to and abide by the Geneva

Protocol.[81] By 1968, noting an increase in the capabilities of chemical arms, the United Nations adopted a resolution to study the issue,[82] and in 1969 declared first use of such in armed conflict as contrary to generally recognized rules of international law.[83] To date, while the United Nations has bolstered the Protocol's prohibition against first use in an effort to create binding customary international law, it has not dealt with the larger problem of technological and scientific advances in chemical weapons development, although it clearly has recognized the larger threat such development entails.

In 1972, the Biological Weapons Convention on the Prohibition of the Development, Production and Stockpiling of Biological and Toxic Weapons and Their Destruction came into force.[84] It is instructive to look briefly at the Biological Weapons Convention ("BWC") to see how effective it has been. Because it is a total disarmament convention that calls for the eradication of all biological weapons for the sake of mankind, it goes well beyond the Protocol's prohibition on first use only.[85] But the BWC does not promote sufficient disincentives for signatories to refrain from clandestine use and/or development of newer biological weapons. Rather, it presents a dichotomy; on the one hand it shows the near unanimity of nations' views (at least officially) that biological warfare is inherently reprehensible and a recognition that weapons research and development should be stopped before the genie is let out of the bottle, with possibly devastating consequences for all mankind; yet, on the other hand, it reveals the unwillingness of signatories to accept limitations on sovereign territorial rights for the purpose of maintaining an independent

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81. G.A. Res. 706, U.N. GAOR, 7th Sess., Supp. No. 20A, at 4, U.N. Doc. A/2361/-Add. 1 (1953); Moore, *supra* note 26, at 429 n.32 (The U.N. adopted some six General Assembly Resolutions by 1966, urging universal adherence to the Protocol.).

82. Lawler, *supra* note 6, at 1225 n.26 (A United Nation's study found that if chemical arms were to be used on a mass scale, no one could predict the effects, regardless of any protective measure capability existing. It also found that the danger of proliferation applied to lesser developing countries as well as industrial nations.).

83. G.A. Res. 2603A, U.N. GAOR, 24th Sess., 1 Supp. No. 30, at 16, U.N. Doc. A/7630 (1969), *cited in* Lawler, *supra* note 6, at 1226 n.34 (The vote was 80 to 3 to declare contrary to recognized rules of international law, as embodied in the Protocol, the first use in international conflicts of "any chemical agents of warfare . . . which might be employed because of their direct toxic affects on man, animals or plants . . . .").

84. Convention on Prohibition of Bacteriological and Toxic Weapons, Mar. 26, 1975, 26 U.S.T. 583, T.I.A.S. No. 8062 (88 signatories).

85. *See* Lawler, *supra* note 6, at 1220-26 (discussing differences between chemical and biological weapons, the latter more readily given up by states because they had not proven effective for military uses).

compliance mechanism, without which it is difficult to see how greater global security can be achieved.[86] In reality, constraints that are self-policed and ambiguous lead to misinterpretations, lax compliance, or outright circumvention. In fact, since 1972, there have been reports, some quite recent, that some signatories have used biological weapons, are currently exporting them and are continuing research and development in this area.[87] Hence, few would now point to the BWC as a workable model for a total chemical weapons disarmament convention.

D. Chemical Weapons Under Customary International Law

> Use of such weapons [poisonous or noxious gases or other inhuman devices] has been outlawed by the general opinion of civilized mankind. This country has not used them, and I hope that we never will be compelled to use them. I state categorically that we shall under no circumstances resort to the use of such weapons unless they are first used by our enemies.[88]

With these words Roosevelt characterized world opinion that the use of chemical warfare was contrary to international law and a crime against all civilized nations. But, the question remains: What is binding under international law, and what is the status of lethal chemical weapons today? At its core, international law deals with the conduct of relations among nations.[89] It is deeply rooted in the notion of consensus; each state being

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86. Proclamation on Bacterial (Biological) and Toxic Weapons, Apr. 10, 1972, 26 U.S.T. 583, T.I.A.S. No. 8062 (Article VI provides for the Security Council of the United Nations to enforce violations, but the Security Council has not been utilized to date.).

87. Cassell, *supra* note 20, at 263-65 (detailing allegations of both chemical and biological weapons in Afghanistan, Kampuchea, and Laos, and discussing the inadequacy of the Biological Weapons Convention to assure compliance); *see* H. Allen Holmes, *Biological Weapons Proliferation*, Address Before the Senate Governmental Affairs Committee (May 17, 1989), *in* DEP'T ST. BULL., July 1989, at 43. *See also* Lally Weymouth, *Is China Exporting Biological Weapons?*, WASH. POST, Oct. 18, 1991, at A21 (discussing that a secret White House report, the Pell Report, is said to reveal evidence that China may be manufacturing lethal biological warfare agents and may be exporting them as well—all in violation of the Biological Weapons Convention to which China is a signatory).

88. Roosevelt, supra note 23, at 507.

89. *See generally* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 101 (1986); LASSA OPPENHEIM, INTERNATIONAL LAW (H. Lauterpacht ed., 8th ed. 1955) (discussing traditional bases of international law).

territorially distinct and having a separate legal identity, but all bound by a common interest in maintaining and advancing orderly relations.[90] Because the rules of international law have evolved by the common consent of nations, a proposed rule will bind no nation that has neither expressly nor impliedly consented.[91] The most common sources of international law are set forth in article 38 of the Statute of the International Court of Justice.[92]

In reviewing article 38 of the International Court of Justice it becomes apparent that chemical warfare is now contrary to the laws of war as developed by civilized nations[93] and that a prohibition on the first use of lethal chemical weapons in war is now binding on all states.[94] One can look directly to the number of treaties that have established prohibitions on superfluous suffering in war as evidence of the intent and practice of states.

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90. LOUIS HENKIN, HOW NATIONS BEHAVE: LAW AND FOREIGN POLICY 33 (2d ed. 1979) (noting that the consent of a state is necessary for proposed rule to bind that state).

91. *Id.* at 33 (discussing the formation of international law through unanimity). If a state does not desire to be bound by a rule of customary international law, that state must manifest its intention not to follow the rule during the early stage of the rule's development, and it must continue to express its opposition); *see* Michael Barton Akehurst, *Custom as a Source of International Law*, 47 BRIT. Y.B. INT'L L. 1, 23-24, 53 (1977) (pointing out that a state will be bound by a customary rule if it waits until the rule is firmly established before expressing opposition.); *see also* JAMES BRIERLY, THE LAW OF NATIONS 57-59 (6th ed. 1963) (discussing treaties as a source of international law).

92. Statute of the International Court of Justice, June 26, 1945, art. 38, 49 Stat. 1031, T.I.A.S. No. 93 [hereinafter ICJ] (they are conventions, international customs evincing a general practice accepted as law, general principles of law acknowledged by civilized states, judicial decisions, and the writings of respected scholars in international law).

93. *See* Burns H. Weston, *Nuclear Weapons v. International Law: A Contextual Reassessment*, 28 MCGILL L.J. 542-57 (1983) (arguing that the humanitarian rules of armed conflict are binding international law, including the first defensive use of chemical weapons and that nuclear weapons should come under the same rules). These rules include a prohibition on weapons and tactics that cause needless injury (Rule 1), indiscriminate harm to combatants and civilian populations (Rule 2), and severe damage to the environment (Rule 3). Other rules prohibit disproportional reprisals from nations (Rule 4), and prohibit nations from violating the neutral jurisdiction of nonbelligerent states. *Id.; see* Daniel J. Arbes, *The International Law of Armed Conflict in Light of Competing Deterrence Strategies: Empty Promise or Meaningful Restraint*, 30 MCGILL L.J. 93 (1984) (Laws of war represent fundamental standards of civilized conduct which must be observed as a means of limiting the scope of hostilities between states.); *see* O'Brien, *supra* note 21, at 37-60 (for analysis of chemical weapons under the laws of war and the right of reprisal—finding majority of international legal authorities hold chemical warfare against international law).

94. Moore, *supra* note 26, at 449-50 nn.118-22 (detailing legal scholarship in the United States on prohibition of chemical warfare and right of reprisal).

Although a bilateral or limited multilateral treaty is not evidence of customary international law—it is a source of law that will only bind signatories—some treaties can give rise to or become a source of international law binding on all states. When such agreements are intended to be adhered to by all states and are in fact widely accepted, they create customary international law binding on all, whether signatories or not.[95] The Protocol would seem to belong to the latter category because it has gained wide acceptance, having been ratified by one-hundred states.[96] One can also look to the actual widespread, longtime practice of most states in refraining from the use of chemical weapons in international conflicts, especially the restraint of the major military powers during World War II. There is also a general recognition by states, as evidenced in numerous United Nations resolutions and in declarations by individual states, such as President Roosevelt's statement, that they are required to adhere to the prohibition against first use of lethal chemical weapons in warfare. Legal scholars now seem to agree that a prohibition on at least first use of lethal weapons in war is now customary international law, which is binding on all states, whether signatories to the Geneva Protocol or not.[97]

But while first use of lethal chemical warfare is contrary to international law, retaliation in kind is lawful, presumably if such retaliation is proportional. This in itself is troubling because, again, it serves to encourage states to develop, produce, and stockpile chemical arms in order to maintain a credible defensive strategy. Although there has been some agreement among nations that chemical weapons and chemical agents should come under a broad international ban, this is hardly evidence of any independent lawful obligation.[98] Indeed, at least four nations have admitted openly that they possess both chemical arms and facilities, and

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95. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 89, § 102. The Genocide Convention and the Vienna Convention on Treaties are two examples of such treaties.

96. Moore, *supra* note 26, at 450.

97. *Id.* at 451; *see* Parks, *supra* note 1, at 1167 n.11.

98. *See* Lawler, *supra* note 6, at 1231 (The United Nations called for a complete disarmament and ban on all chemical weapons and development.). *See* Conference on the Prohibition of Chemical Weapons, Jan. 7-11, 1989, *in* DEP'T ST. BULL., Mar. 1989, at 4, 9. The Conference was held in Paris and attended by more than 100 nations. The final Declaration called for complete elimination of all chemical weapons and facilities and to work toward an international treaty to prohibit all development, production, and stockpiling. *Id.*

there is growing evidence that many other nations possess similar capacities.[99]

It is apparent that one hundred years of effort to bring lethal chemical weapons under a binding international regime has been of limited success. The international community has been unable to prevent intermittent and arguably increasing use, at least in part because the Protocol offers no means of verifying such use, nor any means to enforce violations once they are established. But as the BWC illustrates, this is crucial for confidence and widespread adherence to an arms convention. Even more ominous, the international community has no mechanism to stem continuing proliferation of precursors, nor any means to halt scientific research and development, whose advances may well lead to a new generation of weapons of mass destruction.

IV. THE UNITED STATES TRIES TO DO BETTER

Through export control laws, the United States has attempted unilaterally to contain proliferation of goods and technology used in producing chemical arms, including precursors. However, the magnitude of global chemical production and rapid technological advances have outstripped the United States' ability to do so. Furthermore, the extraterritorial reaches of some export provisions are likely to generate substantial trouble with other nations.

A. The Export Administration Act

1. Background

Historically, nations have used trade controls to pursue political objectives. Such restrictions on international trade can be viewed, to paraphrase Clausewitz, as simply a continuation of politics by other means. The United States has recently emerged as the nation most willing to use export controls as a primary instrument of foreign policy.[100] To this end,

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99. The United States and the Soviet Union have openly declared they have chemical munitions while Libya is said to have a plant at Rabta. *See Confusing Data on Chemical Capability*, WASH. POST, Mar. 15, 1991, at A21; *see supra* notes 61, 63. As a condition of the cease-fire in Gulf War, Iraq has declared that it has large supplies of various poisonous gases, including 75 tons of Sarin, 500 tons of Tabun, and 280 tons of mustard gas, along with 1481 artillery shells and bombs containing chemical warheads. *See* Don Oberdorfer & Ann Devroy, *State Dept. Calls Iraq's Figures on Weapons 'Short of Reality,'* WASH. POST, Apr. 20, 1991, at A15.

100. *See* ANDREAS F. LOWENFELD, 3 TRADE CONTROLS FOR POLITICAL ENDS 537 (2d

the United States has developed an array of laws to control the export of innumerable goods and technology to various and changing country destinations.[101] For the last forty years, the Export Administration Act ("EAA") has been the chief vehicle for maintaining export controls during peacetime.[102] The EAA originally gave broad authorization to the

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ed. 1983) (trade controls used as an alternative to diplomatic or military means); *see* Matthias Hentzen, *United States Export Restrictions for Foreign Policy and National Security Purposes: The 1985 Amendments to the Export Administration Act and Beyond*, 26 COLUM. J. OF TRANSNAT'L L. 1, 1-5 (Absent treaty obligations to the contrary, a state is to determine with whom it will trade under international law as economic control is an essential emanation of sovereignty.); *see generally* Homer E. Moyer, Jr. & Linda A. Mabry, *Export Controls as Instruments of Foreign Policy: The History, Legal Issues, and Policy Lessons of Three Recent Cases*, 15 LAW & POL'Y INT'L BUS. 1 (1983) (discussing the use of economic sanctions with specific case studies of sanctions imposed on Iran, Afghanistan, and Poland); J. Curtis Henderson, Note, *Legality of Economic Sanctions Under International Law: The Case of Nicaragua*, 15 WASH. & LEE L. REV. 167, 167-176 (1986) (analyzing the comprehensive trade embargo imposed by the United States upon Nicaragua to attain United States political goals under The International Economic Emergency Powers Act of 1977, 50 U.S.C. §§ 1701-1706 (1982) ("IEEPA"), which authorizes the President to prohibit imports from or exports to a foreign nation after he has declared a national emergency in response to an unusual and extraordinary threat to the United States. *Id.* §§ 1701, 1702). "An economic sanction is an action taken by a state or international organization to prevent, regulate, or otherwise hinder economic intercourse for the purpose of condemning or influencing the target state's action or policies." Henderson, *supra* at n.5.

101. Arms Export Control Act, 22 U.S.C. § 2751 (1985) (controlling actual weaponry and munitions); Trading With The Enemy Act, 50 U.S.C. § 1 (1941) (controlling trade with belligerents); The Atomic Energy Act, 42 U.S.C. § 2704 (1954), *as amended by* Nuclear Non-Proliferation Act, 22 U.S.C. § 3201 (1978) (controlling export of nuclear materials, fuel, and equipment).

102. The United States imposed these controls under the Export Control Act of Feb. 26, 1949, ch. 11, 63 Stat. 7 (codified as amended at 50 U.S.C. app. §§ 2021-32 (1964) (repealed 1969)). This legislation was superseded by the Export Administration Act of 1969, Pub. L. No. 91-84, 83 Stat. 841 (codified as amended at 50 U.S.C. app. §§ 2401-2413 (1976)) (superseded by the Export Administration Act of 1979) ("EAA").

> The renewed international tensions that contributed to Congress' decision to maintain what were essentially wartime export controls also led, in 1949, to the founding of NATO and the other regional treaty organizations. To ensure the effectiveness of NATO and the other regional alliances, the United States transferred military technology directly to its allies. In addition, as Western Europe and Japan recovered from the war, they began to revitalize their industrial capabilities and to challenge what had been virtually a U.S. monopoly on advanced technology . . . . To prevent such technology from reaching the hands of potential adversaries, it became necessary to establish a mechanism to coordinate allied export control policies.

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President to control exports of United States commodities and technical data to all destinations as he determined necessary for four purposes: national security,[103] short supply,[104] foreign policy,[105] and later, for foreign boycotts.[106]

Such controls were not problematic until the late 1970s and early 1980s, when increased use by the President coincided with mounting trade imbalances and clamors from business interests that export laws were unduly inhibiting export trade.[107] As export trade grew throughout the 1980s, so did Congressional apprehension over the extent of Presidential authority under the EAA, particularly when such controls were harmful to

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(1987).

103. 50 U.S.C. app. § 2404 (National security controls are instituted to provide control of exports making a significant contribution to military potential of countries that the United States perceives as a threat to its security.); *see* Lorraine M. Cody, *National Security Export Controls: Congress Adopts an All For One and One For All Approach*, 14 BROOK. J. INT'L L. 573, 585 (1988) (The goal of national security controls is to delay Soviet acquisition of certain dual-use technology; exports are also restricted to U.S. allies and other free world countries due to Soviet efforts to obtain military technology through illegal diversions.); *see* Dean L. Overman, *Reauthorization of the Export Administration Alternative: Balancing Trade Policy with National Security*, 17 LAW & POL'Y INT'L BUS. 325, 376 (1985) (National security controls mainly affect duel-use items which have both military and nonmilitary uses.).

104. 50 U.S.C. app. § 2406. Short supply controls protect the U.S. economy from excessive drain of scarce materials.

105. 50 U.S.C. app. § 2405 (Foreign policy controls are instituted to fulfill either declared United States international obligations, such as restrictions on exports to South Africa, or to advance United States foreign policy goals, such as trade embargo with Cuba, Nicaragua, Vietnam, and Cambodia. Accordingly, as foreign policy goals change so do foreign policy controls.); *see* Don Oberdorfer, *U.S. to Lift Cambodia Embargo*, WASH. POST, Oct. 18, 1991, at A23 (The United States administration has stated that it will lift its 16-year-old trade embargo against Cambodia as soon as the international accord on Cambodia is signed by them in Paris.). *See* LOWENFELD, *supra* note 100 (providing an analysis of United States economic sanctions to promote foreign policy goals).

106. 50 U.S.C. app. § 2407 (The foreign boycott provision is effectively a blocking statute to stop American businesses from aiding the Arab boycott of Israel.).

107. *See* Donald H. Caldwell, Jr., Note, *Export Administration Amendments Act*, 19 VAND. J. TRANSNAT'L L. 811, 812, 829 (1986) (noting there were many in Congress who felt compelled to promote exports as the only way to achieve a favorable trade balance without resorting to protectionist measures); Hentzen, *supra* note 100, at 123 (noting congressional concern that past foreign policy control decisions had given insufficient consideration to legitimate United States economic interests at a time, in 1985, that United States exporters were already suffering from a strong dollar and less expensive foreign labor costs; while the mood in Congress was that most national security controls did not justify their costs to United States enterprises).

United States exporters and the outcome of such policies were uncertain, or when restricted goods were already readily available on the foreign market.[108] The increasing tension between Congress and the Executive Branch played itself out during the 1980s through the various reauthorizations and amendments to the EAA and were attempts to balance, albeit with some confusion, the competing interests of enhancing America's economic position in world trade with that of preventing the Soviet Bloc from gaining access to American high technology for military purposes.[109] Of parallel concern was the attendant rise of the multinational enterprise and with it the potential for diversion of United States export controls. Here the Congress and the President agreed that the EAA would apply to all goods and technology "subject to the jurisdiction of the U.S."[110] and that a 'person' under the EAA would include not only United States nationals and corporations, but foreign nationals and corporations as well.[111] Congress also acquiesced in imposing restraints on three categories of foreign exports: (1) re-exports of United States origin goods or technology by a foreign person; (2) exports of foreign-origin goods (incorporated abroad) that include United States origin parts or components; and (3)

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108. After World War II, international trade played a relatively small part in the overall United States economy; even by the late 1960s it was only three percent of the Gross National Product, but by 1990, export trade accounted for 8-10% of the Gross National Product. *See* Cody, *supra* note 103, at 587 (A major problem has involved delays in the export licensing process which United States business claimed was causing a substantially negative affect. Due to the inherent uncertainty, foreign purchasers regard United States sources as unreliable.).

109. *See* Donald H. Caldwell, Jr., *The Future of National Security Export Controls*, 21 VAND. J. TRANSNAT'L L. 191 (1988) (noting that the increasing complexity of export controls provoked concerns about unintended results that could harm the domestic economy in the United States, as well as hasten the relative decline of the technological supremacy of the United States. Controls on high-tech goods cost $9 billion annually and cause significant loss in jobs and sales.); 50 U.S.C. app. § 2404(b)(2) (Supp. III 1985) (altering the subject matter of national security controls, freeing some exports on the lower end of technology and relaxing those exports to CoCom countries); 50 U.S.C. app. § 2404(f)(1) (1982) (broadening the foreign availability exception); 50 U.S.C. app. § 2405(m)(2)(A) (Supp. III 1985) (The contract sanctity provision, generally prohibiting retroactive controls on foreign policy grounds.); 50 U.S.C. app. § 2405 (b)(1)(C) (The President can only impose foreign policy controls if he makes determination that reactions of other countries to such is not likely to render controls ineffective or counterproductive.).

110. 50 U.S.C. app. § 2404(a)(1); 50 U.S.C. app. § 2405(a)(1).

111. 15 C.F.R. § 770.2 (1992) ("*Person or Firm.* an individual, corporation, partnership, association, company, or any other kind of organization, situated, residing, or doing business in the United States, or any foreign country, including any government or agency thereof, as well as a citizen or national of the United States or any foreign country.").

exports and re-exports of foreign origin goods that are products of United States-origin technology.[112] With these regulations the United States has attempted to prevent diversions of the EAA by extending its jurisdiction to cover persons and goods beyond its borders. While such extraterritorial provisions have been subject to much controversy and protest among foreign states, there seems to have been no significant concern by the President or Congress.[113]

Penalties are imposed for violators of the EAA. Although persons who knowingly violate the EAA are technically subject to substantial fines and possible imprisonment,[114] the United States generally imposes a non-judicial measure; an alleged violator is placed on a denial list and cannot export from the United States for a given time period.[115] The propriety of non-judicial sanctions has also been called into question by foreign nations who vehemently oppose attempts by the United States to control trade within their borders and who view such measures as a further violation of their sovereign integrity. While such sanctions may or may not be a valid exercise of territorial sovereignty under international legal principles, their effects have caused considerable animosity and have even lead to countermanding orders by some states.[116]

2. The EAA and Chemical Weapons

The United States has imposed the framework of the EAA in an effort to prevent proliferation of chemical weapons capacity to certain nations. Pursuant to such, the Department of Commerce administers non-proliferation controls of dual-use chemicals, or precursors, that are useful in manufacturing chemical munitions. These controls are maintained under the foreign policy provisions of section 5 and are implemented by the

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112. 15 C.F.R. §§ 774.1-774.90, 776.12, 779.8 (1992).

113. *See* discussion *infra* part V.A.

114. 50 U.S.C. app. § 2410(a) (imposing either a $50,000 fine or five years imprisonment); 50 U.S.C. app. § 2410(b)(1)(A) (imposing either a $1 million fine or 10 years imprisonment for exporting to a controlled country); 50 U.S.C. app. § 2410(b)(1).

115. 50 U.S.C. app. § 2410(i)(2)(A); 50 Fed. Reg. 10,756 (1991) (to be codified as 15 C.F.R. pts. 776-799) ("Executive Order No. 12735 of November 16, 1990, directs the Secretary of Commerce to exercise his authority under Executive Order No. 12730 to control exports [of chemical and biological weapons that] . . . would assist a country in acquiring the capacity to develop, produce, stockpile, deliver or use [such weaponry].").

116. *See* discussion *infra* part V.A. (concerning the Siberian Pipeline controversy; *In re* Dresser (France); and the case of Fruehauf-France concerning sales of tractor trailer parts by a United States subsidiary to China).

Department of Commerce through an elaborate licensing scheme and through regulations promulgated and published in the *Federal Register*.[117]

In 1991, and as a direct result of the Persian Gulf conflict with Iraq, the President ordered the Department of Commerce to expand its controls on precursors.[118] The Interim Rules, which became effective March 1991, reflect the Executive's policy, as set forth in the Enhanced Proliferation Control Initiative ("EPCI"), to use export controls to counter chemical arms proliferation.[119] Specifically, the EPCI mandated worldwide export controls on fifty precursors. Formerly such controls were in place for only eleven precursor agents. The President is required under the EPCI to work in conjunction with other nations to achieve this measure of greater control.[120] Additionally, the Commodity Control List ("CCL") was amended to expand the number of countries for which a validated license is required for the production of thirty-nine of these fifty precursors.[121] A license is now mandatory to export precursors, under CCL No. ECCN 4798B, to all nations except NATO members and Australia Group members.[122]

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117. 15 C.F.R. § 799.1 (Supp. I 1992) (prohibited destinations Group 7 countries); 15 C.F.R. § 776.19 (1992) (Controls Chemical and Biological Agents); 15 C.F.R. §§ 799.1-799.2 (1992) ("Commodity Control List"); The Department of Commerce maintains a Commodity Control List for all commodities subject to its licensing control. Under its regulations there are 2 license categories: 15 C.F.R. § 771 (1992) (contains the first category: "General Licenses"); 15 C.F.R. § 772 (1992) (contains the other category: "Validated Licenses"); 15 C.F.R. § 773 (1992) (describes the "Special Licensing Procedures"); 15 C.F.R. § 772.4 (1992) (provides that in application for export, an exporter must fill out form BXA-622P); 15 C.F.R. § 772.3(a) (1992) (requires that an exporter must fully disclose all); 15 C.F.R. § 772.3(b) (1992) (provisions relating to consignees and the ultimate end-users).

118. Expansion of Foreign Policy Controls on Chemical Weapon Precursors, 56 Fed. Reg. 10,756 (1991) (to be codified as 15 C.F.R. pts. 776-799) ("Executive Order No. 12735 November 16, 1990, directs the Secretary of Commerce to exercise his authority under Executive Order No. 12730 to control exports [of chemical and biological weapons that] . . . would assist a country in acquiring the capacity to develop, produce, stockpile, deliver or use [such weaponry].").

119. 56 Fed. Reg. 10,756 (1991) (to be codified as 15 C.F.R. pts. 776-799).

120. All 50 precursors have been identified by the Australia Group. *See* discussion *infra* notes 202-03.

121. 15 C.F.R. § 799.1 (Supp. I 1991) (replacing ECCN 5798F with ECCN 4798B, which is now the Export Control Commodity Number for all 50 precursor agents).

122. 115 C.F.R. § 785 (1991). Previously these precursors required a validated license for export only to those countries listed in the statute as Country S (Libya, Iran, Iraq, Syria) and Country Z (Cuba, Cambodia, N. Korea, Vietnam). Export of goods under ECCN 4798B will generally be denied to Libya, Iran, Iraq, and Syria. *Id.*

To prevent precursor diversions to unauthorized countries by either United States nationals or foreign persons, the Department of Commerce has now placed ECCN 4798B under the prohibitive re-export regime, and has included controls on materials (precursors) used in foreign-made products that would be detrimental to United States security.[123] As with the EAA, transactions and items pursuant to ECCN 4798B are subject to the same sanctions and willful violations under the EAA.[124]

B. Strengthening the Export Administration Act: The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991

Although Congress has disagreed frequently with the Executive on the scope of restrictions under the EAA, such is not the case with controls on chemical weapons capabilities. Rather, apprehensive of the danger of continued proliferation to rogue nations like Iraq,[125] the Congress has fashioned its own response: it has enacted even more far-reaching jurisdiction than had previously existed under the EAA regulations.[126] The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 ("1991 Act") amended the EAA with additional and more stringent unilateral measures.[127] The Secretary of Commerce is mandated to establish a list[128] of goods and technology that require a validated license to any 'country of concern'[129] if such items directly and substantially assist a foreign government or group in acquiring the capability to

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123. 15 C.F.R. § 776.12 (1992). Special commodity policies and provisions apply parts and component provisions to all items controlled under ECCN 4798B.

124. 15 C.F.R. § 776.19. The Interim Rules leave in place the contract sanctity provisions, which exclude transactions before a date certain from the retroactive effects of the new regulations, although the Department of Commerce is seriously considering denying this savings provision under the final amended regulations. *Id.*

125. *See supra* notes 35, 37.

126. *See* discussion *supra* part IV.A.1.

127. Pub. L. No. 102-182, 105 Stat. 1245-1258 (codified as amended in sections of 22 U.S.C. §§ 5601-5606 & 50 U.S.C. app. §§ 2401-2410).

128. 50 U.S.C. app. § 2405(m) (1993).

129. *Id.* § 2405(m)(3)(A)-(B).

> A country of concern is a country other than (1) a country whose government the United States has entered into bilateral or multilateral arrangement for the control of goods or technology on the Established List; and (2) such other countries . . . designated consistent with the purposes of the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991.

Id.

develop, produce, stockpile, or deliver chemical and biological weapons.[130] United States sanctions apply after a presidential determination is made that a foreign person[131] has contributed materially to the chemical weapons capability of a foreign country in part through exporting from any other country any goods or technology that would be, if they were United States goods, subject to United States jurisdiction.[132] Here, the 1991 Act goes well beyond the re-export provisions that previously existed in the EAA regulations, which are suspect under international law, and asserts even more draconian jurisdiction by claiming to encompass secondary transactions that involve neither United States goods, United States technology, nor United States nationals. Tough additional sanctions bar foreign violators[133] from United States government procurement contracts and prohibit them from importing into the United States for at least a twelve month period.[134]

V. THE UNITED STATES CANNOT DO IT ALONE

A. Legal Problems: Extraterritorial Jurisdiction

1. Trouble behind

Not only does America's unilateral approach fail to solve the problems of controlling worldwide chemical weapons capability and dual-use precursors, it creates substantial legal problems as well. Indeed, the approach may have the unwelcome effect of alienating potential allies to the cause. United States domestic export controls, including the EAA,

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130. *Id.* § 2405(m)(1).

131. 50 U.S.C. app. § 2410c(f) (1993).

> A foreign person is defined as (1) an individual who is not a citizen of the United States or an alien admitted for permanent residence to the United States; or (2) a corporation, partnership, or other entity which is created or organized under the laws of a foreign country or which has its principal place of business outside the United States.

Id.

132. *Id.* § 2410c(a)(1)(B).

133. *Id.* § 2410c(a)(3). "For purposes of sanctions, foreign person also includes (1) any successor entity; (2) any foreign person that is a parent or subsidiary of that foreign person if the parent or subsidiary knowingly assisted in the activities; and (3) any affiliate of a foreign person that knowingly assisted in the activities." *Id.*

134. *Id.* § 2410c(c), (d).

have been deemed constitutional despite the presumption against the extraterritorial application of domestic law.[135] But whether or not export controls are valid under the Constitution makes no difference under international law, because under that framework all domestic laws are subordinate and have no legal effect.[136] Yet under the EAA and through implementing regulations, the Congress and Executive have deliberately asserted jurisdiction over persons and transactions beyond the territorial borders of the United States[137] The United States objective is clear: to stop diversion of United States goods and technology that could contribute to lethal chemical munitions capability. However well-meaning this objective may be, what are the bases in international law to regulate goods and conduct beyond United States borders, and can United States law be reconciled under these international norms?

Under international law, extraterritoriality, or the exercise of jurisdiction over activities occurring outside a state's territorial borders, is considered a valid exercise of state power in appropriate circumstances.[138] In a given circumstance, however, what is deemed an appropriate extraterritorial claim must be examined within the context of the larger international order. A most fundamental precept of international law is that it is derived from the consensus of individual nation states;[139] once

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135. So long as Congress has intended the law to apply beyond its borders, the court must find such law constitutional, regardless of whether it violates international law. *See* Moon v. Freeman, 379 F.2d 382 (9th Cir. 1967); *see* Pfeiffer v. Wm. Wrigley, Jr., Co., 755 F.2d 544 (7th Cir.), *cert. denied*, 473 U.S. 907 (1985) (An act of Congress should never be construed to violate the law of nations if any other possible construction exists.); *see* Zenith Radio Corp. v. Matsushita Elec. Ind. Co., 494 F. Supp. 1161, 1177-78 (E.D. Pa. 1980); *see* United States v. Aluminum Co. of America, 148 F.2d 416, 443 (2d Cir. 1945).

136. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 115(1)(b) (1986).

137. 15 C.F.R. §§ 774.1-774.90, 776.12, 779.8 (1992); *see* Robert Thompson, *United States Jurisdiction Over Foreign Subsidiaries: Corporate and International Law Aspects*, 15 LAW & POL'Y INT'L BUS. 319, 347 (1983) (With the 1979 amendments to the EAA, the Congress specifically rejected a proposal to alter nonemergency power under EAA to apply extraterritorial controls over foreign subsidiaries. Though the Congress recognized that such claims would likely be challenged, it was persuaded that the executive should have flexibility in carrying out export controls for foreign policy purposes.).

138. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 402 (1986) (International law recognizes limitations on the authority of states to exercise extraterritorial jurisdiction to prescribe in circumstances effecting the interests of other states.).

139. *See* discussion *supra* part III.D.; *see generally* J.L. BRIERLY, THE LAW OF NATIONS 5 (1963) (The modern nation-state was recognized after the Peace of Westphalia.); *see* Reid v. Covert, 354 U.S. 1 (1957) (With the emergence of the modern nation-state came the doctrine of absolute territorial sovereignty and the right to exercise jurisdiction over all persons within your borders; nonintervention is the fundamental

recognized widely by states over time it becomes binding on all nations. Within this construct, the traditional view is that the legitimacy of international rules are derived from the states; the states collectively are the repository of power and authority and can only be bound to the extent that they are willing to relinquish their sovereign power. Under the rationale of *Lotus*, all jurisdictional assertions are presumed lawful unless it can be shown that the state has consented to relinquishing power in a particular area.[140] Therefore, international order is essentially horizontal. There is no higher authority, but rather the struggle among sovereigns tends to balance out power, thus creating some order among nations.[141] But a legal order that equates jurisdiction in terms of power is one that must necessarily be conflict-creating, as relative power imbalances will always be a part of the natural political order.

The international legal order can also be examined from a more modern perspective, where the international legal structure has legitimacy independent of the individual states that created it. Hence, the authority of a state to assert extraterritorial jurisdiction depends not only on the nature and reasonableness of its claim but also on how the action affects the interests of other states.[142] Or put another way, the legal order as a whole must be by-and-large effective to be legitimate; states must act on the assumption that the legal order is effective or there is no order.[143] In contrast to the more traditional power based view, here the international order is sufficiently endowed with authority to allow its validity despite dissidence.[144] As such, the sovereign power of any one state is con-

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principle of protecting and reinforcing the sovereignty of nations.). *See* Schooner Exchange v. McFadden, 11 U.S. 116, 136 (1812) ("Jurisdiction of a nation within its own territory is necessarily exclusive and absolute . . . ."). The world may be witnessing a certain giving way of the principle of nonintervention so grounded in territorial sovereignty to a new international minimum standard. The United States and the United Nations intervened without military action in Iraq to prevent mass starvation and possible genocide of over 1,000,000 Kurds fleeing Iraq after civil disruption following the Gulf War of 1991.

140. *See* S.S. Lotus (Fr. v. Turk.), 1927 P.C.I.J. (ser. A) No. 10, at 150 (Sept. 7) (holding that an exercise of jurisdiction must be presumed lawful unless an affirmative international rule forbidding such exercise exists).

141. *See* Nicholas G. Onuf, *International Legal Order as an Idea*, 73 AM. J. INT'L L. 244 (1979).

142. *See* HENKIN, *supra* note 90.

143. *See* Onuf, *supra* note 141, at 254.

144. *Id.* at 257-58 (arguing that since the United Nations Charter of 1945, the international order has become more functional in nature; new expressions of the collective will are transformed into law with more immediacy as opposed to previous traditional law making, which was generated over long periods of custom and practice by states).

strained to the extent that international law has circumscribed rules in a given area.[145] Further, such a system has the attraction of predictability, a key to international stability and harmony. Ultimately, an international order based upon some degree of higher authority is more likely to be fair and less conflict-creating than one in which jurisdiction is grounded on the capacity to coerce, which seems bound to generate expansive jurisdictional claims.[146]

It is important that others in the international community consider the United States' jurisdictional reaches appropriate and within the bounds of international norms. If other nations perceive our domestic policy to be unfairly disadvantaging their citizens and to proceed from power not principle, they will act to protect their interests—perhaps by resisting enforcement efforts or by retaliating with counter-measures of their own. The United States cannot rely upon a legitimate interest alone to justify unilateral actions that interfere with the territorial sovereignty of others. Even assuming that the United States has firm ground to base extraterritorial claims, limitations are placed upon the jurisdiction to prescribe. Section 403 of the Restatement sets forth factors to be considered in determining when such an exercise is reasonable and hence appropriate. This balancing of interests reflects a desire to foster consensual, rather than power-based, assertions of jurisdiction.[147]

United States extraterritorial assertions of jurisdiction over re-exports of United States origin goods and technology have in fact already generated serious controversy among nations that see such claims as interference with their trade and an affront to their sovereignty.[148]

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145. *See* HANS KELSEN, PRINCIPLES OF INTERNATIONAL LAW 44 (1952) (noting that this principle itself is a rule of international law).

146. Von Mehrn, *Adjudicatory Jurisdiction: General Theories Compared and Evaluated*, 63 B.U. L.REV. 279, 338 ("[A] legal order that views jurisdiction in terms of [power] . . . will simply want to ensure that its arsenal of jurisdictional bases are large and varied . . . ."); *see* Onuf, *supra* note 141 (discussing the difficulty of turning the current international legal order into a world order that is supported by independent authority).

147. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 403 (1986).

148. *See* Lorraine M. Cody, *National Security Export Controls: Congress Adopts an All for One and One for All Approach*, 14 BROOK. L. REV. 588 (1988) (A necessary attribute of sovereignty is a state's right to absolute control over its foreign trade.); *see supra* note 100. There are substantial parts of the EAA controls that present no inherent conflict: The United States has the right under international law to prescribe jurisdiction as to any nationals or persons within its borders who knowingly export from the United States any chemical agents or munitions to any prohibited destination; moreover, the United States has legitimate power over transactions undertaken by its nationals who are beyond United States borders and violate United States export controls in this area. *See*

Almost every United States attempt to assert extraterritorial jurisdiction pursuant to export controls has created significant international friction.[149]

One of the few instances in which such a conflict was subject to judicial review was the *Fruehauf* case.[150] There a United States corporation, which owned seventy percent of a foreign subsidiary in France, entered into a contract with France's largest truck manufacturer to supply tractor trailer parts to China. When the United States government tried to prohibit this secondary transaction the French court ordered Fruehauf-Fr. to perform on the contract, and the United States ultimately backed down.[151] The President's use of foreign policy controls under the EAA to register disapproval of a Soviet-backed crackdown by Polish authorities against the trade union, Solidarity, caused extreme protest by European governments.[152] The Siberian pipeline, a $25 billion project, was

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discussion *infra* part V.A.2.

149. *See* V. Rock Grundman, *The New Imperialism: The Extraterritorial Application of United States Laws*, 14 INT'L LAW. 257 (1980) (criticizing United States trade laws for undermining the sovereignty of other nations because they interfere with their foreign and domestic policies). *See* Moyer & Mabry, *supra* note 100, at 11-15 (arguing that clashes among United States and European allies have promoted possibly the most strained relations among them since World War II). *See generally* Caldwell, *supra* note 107 (arguing that foreign nations have strenuously objected to United States extraterritorial assertions, which have even lead to retaliatory legislation by some); *see* Joseph P. Griffin, *Possible Resolutions of International Disputes of U.S. Anti-Trust Laws*, 18 STAN. J. INT'L L. 279, 279 n.1 (1983) (citing examples of foreign reactions); *see* R. Stebbing, *Export Controls: Extraterritorial Conflict, Dilemma of Host Country Employee*, 19 CASE W. RES. J. INT'L L. 303, 308-09 (1987) (Parliament enacted the British Protection of Trading Interests Act of 1980, ostensibly to shield foreign subsidiaries of American companies incorporated in Britain from extraterritorial reaches of United States jurisdiction.).

150. Fruehauf v. Massardy [1968] D.S. Jur. 147 [1965] J.C.P. II 14274 bis (Cours d'appel, Paris) (The United States had broad regulations under the Trading with the Enemy Act, which purported to control foreign subsidiaries of United States parents, and prohibited trade with China.). *See also* Stanley J. Marcus & Eric L. Richard, *Extraterritorial Jurisdiction in United States Trade Law: The Need for a Consistent Theory*, 20 COLUM. J. TRANSNAT'L. L. 439, 466-67 (1981) (American attempts to control foreign subsidiaries have sometimes met diplomatic rather than judicial responses.).

151. *See* ANDREAS F. LOWENFELD, INTERNATIONAL ECONOMIC LAW: TRADE CONTROLS FOR POLITICAL ENDS, ch.1, § 3 (1977) (for a detailed analysis of the Fruehauf incident).

152. *See* Thompson, *supra* note 137, at 355; *Common Market Challenges U.S. Policies on Trade as Economic Relations Worsen*, WALL ST. J., July 1, 1982, at 4 (Europeans contended that United States action violated international law.). *See* A.V. Lowe, *Public International Law and Conflicts of Laws: European Response to U.S. EAA Regulations*, 33 INT'L & COMP. L.Q. 515, 897 (1984) (The European Community's principal objection was that the extraterritorial reach of the United States violated international law.).

designed to transport Soviet natural gas from Siberian wells to Western European markets. The project needed certain western technologies that were to be manufactured in Europe by domestic firms under differing arrangements with specific United States sources. In 1982, the United States banned all re-exports of oil and gas equipment utilizing United States goods or technology from third countries to the USSR and banned foreign subsidiaries of United States companies from engaging in similar transactions.[153] To protect their trading interests many European governments issued opposing orders, directed at all companies within their territory, to fulfill contracts signed prior to the effective date of EAA regulations.[154] When actual goods were shipped by foreign subsidiaries of United States companies, the United States imposed sanctions by way of the Denial List.[155] Dresser, who had a French subsidiary caught in the crossfire, challenged the action in federal court, but the President lifted sanctions before a ruling was made.[156]

These incidents demonstrate that United States reliance on a power-oriented basis for asserting jurisdiction beyond its borders can create serious conflict. As the world becomes more interdependent and as trade becomes increasingly necessary for United States economic stability, the United States must be mindful of the consequences of its extraterritorial reaching—especially when that reaching involves dual-use goods that have legitimate non-military uses. Also, with the growth of foreign direct investment in the United States, the proverbial tables could be turned. Now the United States must play its relatively new role as a host state. In the past, the United States has reacted forcefully to any attempts by other nations to assert extraterritorial jurisdiction over United States nationals and corporations. Therefore, it will be difficult to convince others that they should bend to our will while we have vehemently opposed similar reachings.[157]

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153. Thompson, *supra* note 137, at 354-55.

154. *Id.* at 356 (Several European nations had a large number of contracts relating to the Soviet pipeline using technology licensed from United States firms, some of whom were subsidiaries of United States companies.).

155. *See* discussion *supra* part IV.

156. Thompson, *supra* note 137, at 356 nn.173-174 (The President stated that a more united and cohesive Allied policy towards the Soviets had been formulated, thus obviating the need for United States re-export controls, but most categorized this as a face-saving means to end unpopular sanctions. Dresser argued that extraterritorial approach was contrary to principles of international law.). *See In re* Dresser (France); Dresser Industries v. Baldridge, 549 F. Supp. 108 (D.D.C. 1982).

157. *See* LOWENFELD, *supra* note 100 (for a discussion of United States regulations

2. Trouble Ahead

Both in current law and in pending legislation the EAA and regulations promulgated thereunder are extremely broad assertions of extraterritorial jurisdiction.[158] What bases under international law might justify such claims?

a. The Territoriality Principle

Territoriality is a fundamental power emanating from sovereignty. A sovereign state has jurisdiction to prescribe behavior for conduct occurring entirely or substantially within its borders and for the interests in property and the status of persons within its territory.[159] Additionally, it may have jurisdiction to prescribe conduct outside its borders but only if such conduct has a substantial effect within its borders and only if reasonable.[160] It follows then that a state has an absolute right to control its trade, and as such the provisions of the EAA, which purport to control persons within United States territory from exporting certain chemical precursors to certain destinations, are entirely proper. The propriety of nonjudicial sanctions by the United States is less clear.[161] The United States can reasonably argue that it is not in fact prescribing behavior for actions committed beyond its borders; rather it is merely denying United States exporters the privilege of selling to any person who has violated the EAA regulations on chemical precursors by actions that occur beyond United States borders. The same rationale applies when the United States denies, by way of the Denial List, access into the United States market to a person, who by acts committed outside the United States territory, has violated EAA provisions in this area. Yet it seems the more forceful argument that such sanctions, when applied to actions of persons and over

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blocking the effect of Arab boycott of Israel).

158. If a foreign importer outside United States territory re-exports goods that originated in the United States without permission of the United States government, then that importer is violating United States law. If the importer diverts re-export goods to an unauthorized end-user, even within his own country, or if he makes an unauthorized export of goods manufactured in his own country by use of American goods, he is also in violation. This is true even if transactions conform with both the law and policy of the importer's country.

159. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 402(1)(a)(b) (1986).

160. *Id.* § 402(1)(c). This is sometimes referred to as the Effects Doctrine—wherein a state may assert jurisdiction over activities beyond its borders if such activity has a substantial effect within its territory.

161. *See* discussion *supra* part IV.A.2.

goods solely within another sovereign's territory and entirely legal under that nation's domestic law, do interfere with the internal commerce of that nation. In fact, it is legitimate to raise as a defense the effects doctrine to assert that such United States actions have a substantial and negative effect on the internal affairs of other nations. One need only imagine the situation in reverse to comprehend the merit of the assertion and the depth of hostility to such perceived overreaching.[162]

b. The Nationality Principle

The United States has claimed that property exported from the United States possesses United States nationality; the EAA specifically speaks of goods or property subject to its jurisdiction. Hence, with respect to goods either produced in the United States or abroad using United States material, components, or know-how, the United States deems that nationality follows those goods, just as nationality follows an individual. From a legal standpoint this is a tenuous argument because it is counter to well-established principles of property law that declare title to property vests upon delivery when control is relinquished.[163] Additionally, under United States tax law, where the goods come to rest determines their nationality for tax purposes.[164] In the fast-paced environment of massive transborder transfer of goods and technology, such an implausible theory makes little practical or legal sense and has garnered no acceptance beyond the United States.[165]

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162. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 402, cmt. d (1986) ("Controversy has arisen as a result of economic regulation by the U.S. and others, particularly through competition laws, on the basis of economic effect in their territory when conduct was lawful where carried out."); *see infra* note 174.

163. *See* L. OPPENHEIM, 1 INTERNATIONAL LAW 145 (H. Lauterpacht ed., 8th ed. 1955) (explaining that the nationality principle is not traditionally applied to property other than vessels and airplanes, with a possible exception for distinct cultural property); *see* Thomas G. Harris, *A British Perspective on Export Controls*, *in* TECHNOLOGICAL CONTROL, COMPETITION AND NATIONAL SECURITY: CONFLICT AND CONSENSUS 123-24 (Bernard L. Seward, Sr. ed., 1985) (stating that attempts to control goods once they have entered another country are considered to be intrusive on sovereignty and amount to a challenge to validity of title to property).

164. *See* Kenneth W. Abott, *Extraterritorial Reach of Export Controls*, 17 CORNELL INT'L L.J. 79, 135 (1984).

165. *But see* Marcus & Richard, *supra* note 150, at 480-81 (arguing that the UNESCO Convention on the Means of Prohibiting and Preventing the Illegal Import, Export and Transfer of Ownership of Cultural Property lends some support to the position of the United States).

International law recognizes a state's right to regulate the conduct of its nationals beyond its territory. The principal of nationality rests upon a sovereign's right to demand allegiance in return for the protection it affords its nationals both within and beyond its borders.[166] With regard to the EAA provisions that curtail or prohibit United States nationals from trading in certain identified chemical precursors to certain destinations, such prescription on behavior is entirely appropriate under international law. The difficulty is in determining the nationality of a corporation, especially a multinational enterprise ("MNE"). Historically, determining the nationality of corporations has been the subject of debate and has generated significant jurisdictional clashes and competing claims.[167] Under international law a corporation is a juridical person and generally has the nationality of the state of incorporation.[168] This is especially important because when a state asserts jurisdiction based upon nationality over a foreign person or subsidiary, it may subject its nationals to rules that directly conflict with those of the host-state, thereby creating an inherent conflict. In this position such 'nationals' are forced to choose between incurring a penalty or liability under the law of either state. When jurisdictional claims revolve around more internal matters, as here with the EAA attempting to regulate trade in a host state, it appears the more legitimate authority resides within the host state.[169] Since the EAA attempts to regulate the conduct of foreign persons, corporations and subsidiaries, the nationality principle would seem to offer no basis for prescribing jurisdiction over foreign persons or corporations and little basis for such over foreign subsidiaries unless the United States can come under some established exception.

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166. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 402(2) (1986); *see also* Blackmer v. U.S., 284 U.S. 421 (1932) (United States national subject to United States subpoena while abroad.).

167. Some states view the place of incorporation as controlling, whereas others look to the state where the seat or chief office (siege social) is located, and still others look to factors such as where most of the corporation's activity takes place. *See* I. BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 422-23 (3d ed. 1979).

168. *See* Barcelona Traction, Light and Power Co. (Belgium v. Spain), 1970 I.C.J. 3 (Feb. 5) (holding that the place of incorporation will most likely determine nationality, but not absolutely). RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 213 (1986). Sumitomo Shoji America, Inc. v. Avagliano, 457 U.S. 176, 185 n.11 (1982) (court used place of incorporation to determine nationality). But states are always free to alter this principle by treaty and have done so in limited circumstances (e.g., International Convention on the Settlement of Investment Disputes, Mar. 18, 1965, art. 25, 17 U.N.T.S. 159).

169. *See* Thompson, *supra* note 137, at 377 (Typically internal matters such as labor, health and safety regulations, tax laws, etc., are governed by the host state jurisdiction.).

The Restatement Third sets forth certain limited instances in which it is acceptable under international rules for a state to prescribe conduct regarding activities of a foreign subsidiary.[170] It also recognizes that foreign subsidiaries are often part of a larger entity, the MNE, which is a distinctly unique enterprise now prominent in the international community. As trade undergoes further globalization, a precise means of determining nationality for MNEs will become increasingly blurred and difficult to ascertain. Generally, section 213 will be applicable but with a necessary realization that corporate nationality is "peculiarly subject to manipulation,"[171] and does not lend itself to neat jurisdictional categories.[172] Thus, a state may refuse to treat a corporation as a national of the state of incorporation where there are insufficient genuine links.[173]

Section 414 of the Restatement (Third) establishes certain exceptional circumstances that will allow a state to assert jurisdiction over a foreign subsidiary: (1) the regulation must be essential to further a major national interest; (2) such can only be carried out effectively overall if it is also applied to the foreign subsidiary; and (3) such regulation is conflicting with the law or policy of the host state.[174] While reasonable minds would hardly differ over the goal of eliminating chemical weapons proliferation, reasonable minds may hardly agree as the means necessary to the task. One of the core problems is that chemical precursors can have legitimate, even life-saving uses. So, who decides whether or when such goods can be shipped to a given destination? Further, although it is true that United States policy will be effectively thwarted if re-export provisions are not applied to foreign subsidiaries, the practical reality is that even if applied

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170. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 414 (1986) (A state may not ordinarily regulate activities of foreign corporations on the basis that they are owned or controlled by nationals of the regulating state, but a corporation cannot escape or evade all regulation by the state of the parent company merely by setting up foreign subsidiaries.).

171. *Id.* § 213.

172. There are commentators who argue that the multinational corporation is so powerful and influential in international economic terms, that it is in fact breaking down traditional notions of territorial sovereignty. *See* Jonathan Turley, *MNE Misconduct and the Presumption Against Extraterritoriality*, 84 NW. L. REV. & BUS. 598, 663 (1990) (calling for multilateral regulation of MNEs, as territorial/nationality bases for jurisdiction are now becoming obsolete and inadequate).

173. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 213 cmt. c (1986). "[A] state is entitled to reject representation by the incorporation state if it was chosen solely for legal convenience, for example, as a tax haven, and the corporation has no substantial links with that state, such as property, and office or . . . substantial business activity, or residence of substantial shareholders.").

174. *Id.* § 412(2)(b)(i)-(iii).

effectively by foreign subsidiaries of MNEs such unilateral measures standing alone will never adequately stop proliferation worldwide, regardless of the laws or policy of the host state.[175] Moreover, the most fundamental problem is the United States' attempts to usurp an essential aspect of sovereignty: a state's right to set and regulate its trade policy. Thus, at a most basic level, United States regulation of secondary transshipments will necessarily be perceived as a direct affront to another nation's sovereignty with the inherent potential for jurisdictional conflict. In such circumstances, there is little doubt that the United States has a rather weak basis for its extraterritorial assertions under international law.

Apparently, the United States recognizes this legal problem, at least to some extent.[176] To circumvent the extraterritorial assertions within the framework of the EAA, the United States utilizes contractual mechanisms to establish jurisdiction over foreign subsidiaries and corporations. So-called submission agreements purport to bind foreign purchasers by mandating that they give written assurances to abide by United States export laws and not re-export in violation thereof. Under this theory foreign entities are deemed to have voluntarily submitted to United States jurisdiction, as no one is forced to conduct business with the United States. Generally there is no principle of international law that prevents a nation from directing its export trade as it sees fit, rather, such is an inherent right of sovereignty. But under the circumstances, if particular goods are not readily available outside the United States, then an implicit agreement to observe end-use and re-export rules becomes more likely an adhesion contract, a take-it-or-leave-it proposition.[177] Indisputably, the United States has the right to refrain from direct trade with individual countries for purposes of effectuating its policy of preventing chemical precursor proliferation. However, its attempt to prohibit foreign business in foreign countries from such trade seems a rather blatant interference with the political and economic independence of foreign states.[178] Moreover, any

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175. *See* Marcuss & Richard, *supra* note 150, at 439-40 (1981) (arguing that United States trade laws exceed limits of jurisdiction established under international law and that the nationality principle as construed in Barcelona Traction does not justify assertion of United States jurisdiction over every foreign subsidiary, especially when laws interfere with the foreign policy interests, balance of payments, and economic policies of other countries).

176. *See* discussion *supra* part IV.

177. To the extent that dual-use chemicals are controlled by the United States and the Australia Group, it follows that such availability will be restricted on the global market to some extent.

178. *But see* Marcus & Richard, *supra* 150, at 480 (arguing that if the re-export of goods or technology would have substantial undesirable effects within United States

agreement between the United States government and a foreign national in no way binds the sovereign of that national—for in no way has it relinquished its sovereign right to control its trade, its nationals, or its economic destiny. Rather, as the Fruehauf and Dresser incidents illustrate, attempts by the United States to reach into another sovereign's territory and regulate trade must necessarily violate the public policy of that foreign nation.

c. The Protective Principle

The Protective Principle is a much more circumscribed basis to assert jurisdiction in international law.[179] It recognizes a state's right to assert jurisdiction extraterritorially over offenses directed against its national security. While the scope of conduct that may threaten the security of a state is ill-defined, it is generally required that such conduct must be of a nature generally recognized as a crime by states with relatively well-developed legal systems.[180] As such, it seems an attenuated argument to claim that secondary transactions in chemical precursors are a real threat to the national security of the United States. Possibly, if there was a massive quantity being transhipped to a third country with questionable motives and capabilities, then that particular transaction could conceivably be a real threat; however, it cannot justify a blanket claim of jurisdiction. Rather, the protective principle is basically a shield that allows the state exercising jurisdiction to avoid a substantial and legitimate threat to its very sovereignty and can not be invoked to avoid merely a threat to a public policy objective.[181]

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territory, then assertion of jurisdiction is possible, based on the effects doctrine). *See also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 402 (c), cmt. d (1986). Although in this instance one is hard-pressed to establish that re-export of chemical precursors standing alone would have substantial, undesirable effects upon United States territory. Even the re-export of actual lethal chemical agents or hardware may be insufficient to establish legitimacy of jurisdictional prescriptions under the Effects Doctrine. For example, how does the existence of Libya's alleged chemical weapons plant at Rabta substantially effect activities within United States territory. *See supra* note 61.

179. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 402(3) (1986).

180. *Id.* cmt. f. Examples of generally recognized crimes are: espionage, counterfeiting, and falsification of official documents. *See also* H. Lauterpacht, *Revolutionary Activities by Private Persons Against Foreign States*, 22 AM. J. INT'L L. 105, 106-07 (1928) ("[A] state is entitled to expect that the exclusiveness of other states' jurisdiction over their territory will not result . . . in a serious menace to its existence and safety . . . [that] constitutes, according to an almost unanimous consensus of opinion, a perfectly good ground for intervention.").

181. Extraterritorial assertions based upon the protective principle have been little used

d. The Universality Principle

The Universality Principle is another limited basis for extraterritorial assertion. It permits states to define and punish certain offenses that they would otherwise have no jurisdiction over if the offense is readily acknowledged by the international community to be against a core interest of all nations.[182] Universal jurisdiction results, then, from a universal condemnation as reflected in widely-accepted international agreements and resolutions by international organizations, such as the United Nations.[183] Applied to the actual use of lethal chemical warfare in present times, such jurisdiction could well be appropriate[184] but as to secondary transactions of precursors there is no valid basis to assert jurisdiction under such principle.[185]

It seems evident that the United States re-export regime is neither legitimate nor reasonable under accepted international legal principles. Indeed, in all likelihood such grandiose extraterritorial claims will continue to bring more harm than good. Enforcement is also a consideration. Whereas the EAA provides for severe criminal and civil penalties for willful violations, the United States relies instead on non-judicial measures to induce foreign importers to tow the party line. Rather than concern itself with sticky problems of obtaining in personam jurisdiction over foreign parties, the United States can simply put the alleged offender on the Denial List, effectively cutting off its access to United States goods and technology.[186] As previously stated, by purporting to be only asserting jurisdiction for behavior within its territory, the United States may resolve the legality of such means under international law. Yet, since the United

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by states and typically have involved threats of a more direct nature. *See* United States v. Zehe, 601 F. Supp. 196 (D. Mass. 1985).

182. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 404 (1986). Some examples of crimes of universal concern are piracy, genocide, slave trade, and war crimes.

183. *Id.* cmt. a.

184. *See* discussion *supra* part III. Had Iraq used chemical weapons against Allied forces in the Persian Gulf War, a very real possibility existed that United Nations would have not only condemned Iraq but would have taken action to punish Iraqi leadership for war crimes.

185. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 403 (1986) (This allows for instances when two states have legitimate or concurrent jurisdiction that each will fully evaluate before exercising such jurisdiction and is based on notions of comity among nations. Thus, if a state claims certain chemical agents are necessary to develop its industrial/medical base, how can the United States claim its extraterritorial jurisdiction should supersede another sovereign's domestic economic integrity.).

186. *Id.* § 423(3)(C)(A)-(B).

States remains the largest, most lucrative consumer market in the world, wielding such heavy economic clout will not likely enamor others to our cause. Lastly, foreign nationals and their respective governments can never be entirely certain that the United States will not impose import sanctions whenever it perceives that a transaction beyond its territory will imperil national security.[187] Such overt assertions based upon power alone will do little good to long-term political and economic interests of the United States because they will be perceived as neither fair nor predictable. More importantly, the world can ill-afford to become tangled-up in power politics while chemical weapons capabilities spread. Surely the war in the Gulf has shown us that a determined and united effort is needed.

B. Practical Problems: The Global Chemical Industry and the MNE

Unilateral export controls under the current statutory scheme are and will remain ultimately unsatisfactory in preventing the development and proliferation of chemical agents that can be used to manufacture chemical weapons. As previously noted, there is the particularly thorny problem of the extraterritorial reach of such unilateral measures, which are problematic at best. The most obvious practical reality is that the United States cannot achieve this objective in a vacuum. The nature of the chemical industry and of dual-use chemical agents is now too diverse and dispersed throughout the industrial world.[188] Although the international chemical market is still dominated by only a few large firms, there are at least twenty countries that have highly sophisticated chemical industries. Therefore, even if the United States can control effectively all present and

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187. By adopting 50 U.S.C. § 2443 (1988), specific sanctions were imposed by Congress through amendments to the EAA against two foreign firms: (1) Konsberg, a Norwegian firm, for selling advanced milling machines to the Soviet Union that gave the Soviets the ability to produce silent propeller blades for their submarine fleet, and (2) Toshiba, a Japanese firm, for selling the Soviets computers that provided their control. Both companies were not allowed to trade with the United States government, nor import products into United States markets from December 1988 to December 1991 (even though neither the products nor technology were of United States origin nor contained United States components, and even though these transactions were not violations of United States law). The so-called Toshiba incident provoked much resentment by United States allies that such unilateral United States actions could produce serious financial harm to western economies; high tensions led to a senior political meeting in January 1988 of CoCom members (which include NATO nations, plus Japan and Iceland). *See* 4 GLOB. AFF. 121-22 (1989). *See generally* Jere W. Morehead, *Controlling Diversion: How can we Convert the Toshiba-Konsberg Controversy into a Victory for the West?*, 9 NW. J. INT'L L. & BUS. 277 (1988-89).

188. *See* discussion *supra* part II.

future United States trade in precursors, it cannot mandate to a foreign power how that government should control its export trade in this area.[189]

Further, there is the nature of the global chemical market itself. In the last ten to fifteen years there has been a tremendous internationalization of

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189. *See* Koplow, *supra* note 50, at 142 (The largest firms are based in the United States, Britain, France, Japan, and West Germany.). Even when foreign governments are in relative harmony with United States export controls on chemical agents, if foreign governments are lax about enforcement there is no international legal regime that the United States or the international community can turn to for sanctions if in fact private sources clandestinely sell chemical agents to other, third-party nations. *See Germany; Make Arms, Not War*, ECONOMIST, Feb. 16, 1991, at 76-77 (alleging tacit agreement between German industry and government whereby Germany's tough export controls on chemical agents and chemical precursors would not get in the way of export trade, and finding that over 60 German firms helped to assemble Iraq's chemical weapons capacity. To avoid suspicion, such facilities were described as civilian pesticide plants, but authors quote chemists and engineers who say it was clear from an early stage what was really going on in Iraq); *see supra* note 61 (Germany helps build chemical plant clandestinely for Libya).

In the United States, serious allegations are being investigated that during the 1980s, the policy of the Department of Commerce was to aggressively push the export of dual-use technological hardware to Iraq, and warnings by the Department of Defense and the United States Customs Service were ignored regarding the probability that such exports were being adapted by Iraq for chemical and biological weaponry, as well as for missile technology. Thus, it was impossible to get United States allies to agree not to export dual-use goods to Iraq since the United States, through the Department of Commerce, was granting licenses for just that; it was not stopped until a 1987 agreement among some industrial nations to halt exporting to Iraq (and other less developed countries) missile and chemical weapons technology. *Expose: Nightline* (NBC television broadcast, Feb. 17, 1991). Throughout the 1980s, Iraq illegally utilized approximately $2 billion worth of United States financed agricultural credits to acquire high technology to build up its military, including chemical weapons. This money was funneled through a Georgia bank, which was a branch of an Italian bank, Banco Nazionale del Lavoro. *Nightline* (ABC television broadcast, May 1, 1991); *see Military Sale to Iraq Backed by U.S. Credit, Hill Told*, WASH. POST, Aug. 2, 1991, at A17 (A Federal grand jury indicted the Atlanta branch of the Italian bank, Banco Nazionale del Lavoro ("BNL") and Iraqi officials in March 1991 for (1) conspiring to defraud the Italian Bank in connection with $4 billion in loans, $800 million of which were guaranteed by the Department of Agriculture; (2) using bank pledges from BNL Atlanta that were backed by United States farm loan guaranteed by the Department of Agriculture; (3) using bank pledges from BNL Atlanta that were backed by United States farm loan guarantees, a Pennsylvania company, Kennametal, Inc., which sold machine tools to Iraq for military purposes in 1989. A Kennametal spokesperson indicated all sales to Iraq occurred in 1989 at which time the Bush administration was encouraging United States companies to trade with Iraq. The spokesperson further indicated that the company did not know that United States agricultural credits were being used to finance the sales. Kennametal stated that it had not evaded United Export control laws because the machine tools were made and shipped by its foreign subsidiary, thus United States export licenses were not required.).

chemical firms and related companies, resulting in huge transborder flows of all kinds of chemicals, technology, and chemical know-how.[190] Large United States and European firms, hitherto rivals, are merging to gain economies of scale needed to survive in this highly competitive global environment.[191] So as rapidly as technological advances develop, they will be dispersed by the multinational enterprises that now dominate the chemical industry.

Also the nature of the MNE itself has created unique problems and thus far has defied a coherent international regime capable of any real regulation or supervision.[192] The growth of the MNE has coincided with the growth of international trading and foreign direct investment generally. It is defined as "enterprise[s] which are directed from . . . countries of origin (home state) and engage in economically significant activities within other states, known as host countries."[193] There is still much debate on how best to exert legal control over MNEs, with some favoring linkage of foreign subsidiaries to their parent company, which controls decision making—while others see territorial control by the host state as sacrosanct. Therefore, from a practical standpoint it will often be difficult to ascertain, at least for purposes of United States export law, who in fact has the requisite knowledge to be identified as a violator and hence subject to sanctions.[194]

Lastly, unilateral controls on the United States chemical industry produce an uneven burden because only United States companies will absorb the damage to business relationships and to market share.[195] As a consequence, unilateral controls could also discourage United States companies from entering new markets or expanding market position,

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190. Koplow, *supra* note 50, at 264 (Affiliated companies are involved in a vast variety of business transactions for development and marketing of chemical products. The flow of information between parent and foreign subsidiaries, including flow of confidential trade secrets, is an essential part of competitive trade in this industry.).

191. *See Jack Welch Reinvents General Electric—Again*, ECONOMIST, Mar. 30, 1991, at 59 (reporting that General Electric bought Borg-Warner Chemicals).

192. *See* Detlev F. Vagts, *The Multinational Enterprise: A New Challenge for Transportational Law*, 83 HARV. L. REV. 739 (1970) (discussing various approaches to regulate the MNE).

193. HANS W. BAADE, THE LEGAL EFFECTS OF CODES OF CONDUCT FOR MULTI-NATIONAL ENTERPRISES (Norbert Horn ed., 1980).

194. *See* discussion *supra* part IV.

195. *See* HOMER E. MOYER & LINDA A. MABRY, EXPORT CONTROLS AS INSTRUMENTS OF FOREIGN POLICY 142-156 (1988) (for a lengthy analysis of the economic cost to United States businesses resulting from unilateral export controls).

especially if they must be overly anxious of possible sanctions regarding re-export of United States chemicals by foreign parties over whom they have little or no legitimate control.[196] United States chemical companies are also wary of unilateral controls, which have the potential to jeopardize confidential information such as intellectual property, trade secrets, and customer lists. Were such knowledge leaked, it would put them at a significant disadvantage.[197] It is precisely the industry's rapid ability to produce and process new chemicals that maintain its global competitiveness.[198]

It is evident that export controls will be exceedingly more effective if applied multilaterally by all the major industrial players, because the impact of such coordination will be far greater when all possible source countries enforce them. From a political perspective, the United States must forge a consensus if it truly hopes to contain precursor proliferation. Now is not the time to antagonize other sovereigns through jurisdictional overreaching or disproportionate sanctions that adversely impact upon their trade with the United States. The United States must regard foreign sovereigns with comity—a recognition that each sovereign is equal among all nations—and work with them, not against them. To the extent the world's chemical industry is concentrated in the MNEs, bridging alliances will go far in alleviating worrisome extraterritorial issues that have arisen when applying unilateral controls to MNEs.

From an economic perspective, it is essential for the United States to maintain harmonious relations with allies and trading partners. As international trade grows, so does the potential for the United States economy. In 1990, the United States had an 8.5% growth in exports, which accounted for eighty-eight percent of total economic growth.[199] Clearly, United States export trade is too vital to risk disruption from ill-fated attempts to control the global chemical market single-handedly. Multilateral measures will also lessen the burden on United States business, in particular chemical producers, who themselves are a highly productive and important sector of the United States economy. Such measures also best serve the stated congressional policy of protecting and enhancing

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196. Koplow, *supra* note 50, at 58 (public statements of United States chemical producers on the importance of avoiding unilateral United States trade restrictions which could result in customers shifting their purchases to suppliers from other countries at the competitive disadvantage of United States firms).

197. *See* 1 SIPRI, *supra* note 18, at 30.

198. *See supra* note 52.

199. *See* Koplow, *supra* note 50, at 33 (Chemical manufacturing plants account for 10% of the total value-added in United States manufacturing.).

United States competitiveness abroad. Indeed, increased capital flow will allow research and development efforts to expand into areas such as pharmaceuticals, with potential to benefit all humankind. Thus, from a political, legal, and economic perspective, the United States can best serve its cause by working with others to achieve harmonized, multilateral export controls that can stem the rise of precursor proliferation.

VI. RECOMMENDATIONS

Because unilateral export controls are ineffective, the United States has joined other industrial nations in forging multilateral export controls, which include dual-use precursors. Even so, applying a traditional export control regime to control weapons proliferation is a flawed policy resting on incorrect assumptions, and thus can never be an entirely adequate answer. In recognition, the United States advocates a complete ban to achieve the overall objective of halting chemical weapons use and development. Export controls should be part of a larger regime that would combine stringent, independent compliance with enforcement mechanisms in order to gain widespread adherence among nations.

A. Multilateral Measures

1. The Australia Group

To some extent, at least from a practical viewpoint, the United States is cognizant that its unilateral controls cannot stop the development and proliferation of chemical precursors on a global level and that such a regime only puts the United States chemical industry at a competitive disadvantage in a global market.[200] Therefore, the United States has sought to promote multilateral efforts to achieve a workable international regime. The Australia Group, formed in 1984 and chaired by the Australian government, is composed of an informal body of some twenty-two chemical-producing countries[201] whose purpose is to adopt multilateral measures to contain proliferation by restricting trade in chemical precursors.[202] Working within their consensual arrangement, the Group

200. *See* discussion *supra* part V.

201. M. DEVAUGH, SUMMARY OF U.S. NON-PROLIFERATION CONTROLS, COPING WITH U.S. EXPORT CONTROLS 324-25 (1990); COMMERCIAL LAW AND HANDBOOK SERIES No. 530 (1990).

202. DEVAUGH, *supra* note 201, at 325 (Currently there are nine precursors on the Core List, and forty-one on the Warning List.).

identifies specific precursors and then attempts to harmonize their respective domestic export controls. Currently there are fifty precursors that have been identified; for those precursors on the Core List Group, members have agreed to impose direct export controls, while for those on the Warning List, members are to provide administrative guidance to their domestic chemical industries.[203]

2. New United States Legislation

The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991[204] focuses on multinational measures to prohibit the use and proliferation of chemical arms and encourages the international community to use international sanctions against both governments that resort to chemical warfare and private firms that aid in the proliferation of chemical weapons.[205] The 1991 Act also encourages an internationally coordinated effort to achieve a comprehensive treaty to ban all chemical weapons use, development, production, and stockpiling.[206] At the same time the 1991 Act seeks to strengthen the international regime with the Australia Group and with other supplier nations helping to devise more effective controls on goods and technology applicable to chemical weapons production.[207] With respect to the latter, the 1991 Act establishes (1) a "harmonized" list of export controls among the Australia Group nations; (2) a public, unclassified "warning" list for precursors; and (3) a "denial" list for firms and individuals who violate the export controls of the Australia Group.[208] Lastly, the 1991 Act calls for effective international monitoring of commerce in precursors, as well as other goods and technology that advance chemical weapons, and adoption of tougher

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203. *Id.* at 327. In March 1991, the United States included all fifty precursors on its Commodity Control List, which requires a validated license for shipments to nations outside the Australia Group. *See* discussion *supra* part IV.

204. Pub. L. No. 102-182, 105 Stat. 1245-1258 (codified as amended in sections of 22 U.S.C. §§ 5601-5606 & 50 U.S.C. app. §§ 2401-2410.); *see supra* part IV.B.

205. 22 U.S.C. § 5601(1) (1993) (The 1991 Act sets out various sanctions against governments who resort to chemical warfare, including termination of foreign aid, termination of arms sales, denial of United States government credit, import restrictions, withdrawal of diplomatic relations, and withdrawal of United States landing rights.).

206. *Id.* § 5601(2)

207. *Id.* § 5601(3).

208. *Id.* § 5602(b)(3)(A)-(F).

multilateral sanctions against firms and individuals who violate export controls.[209]

Generally, the 1991 Act is a laudable effort by the United States to contain the spread of chemical precursors for chemical weapons. To the extent the United States is working with other sovereign nations on an equal footing this will translate into a more effective international regime and will also go far in alleviating tension and conflict over relative power imbalances when competing jurisdictions are asserted.[210]

It is still unclear, however, how well the 1991 Act will control the proliferation of chemical and biological weapons and their precursors. Some conspicuous problems remain unresolved. The Australia Group is a consensual arrangement only; there are no binding legal obligations to control exports. Further, if any member is lax in enforcing its domestic controls, as Germany has been with its chemical and allied firms, there is no international regime in place to deal with either the sovereign member or the private firms. This leaves the United States with the option to apply sanctions unilaterally either against an offending supplier country or the private firms themselves. But this is not a healthy choice because it forces the United States to choose between its commitment to prevent proliferation and its economic well-being. Sanctions such as denial of United States market access to offending foreign firms will necessarily disrupt trade flows and harm United States firms in innumerable ways. Politically, it will also be difficult, if not impossible, to fashion appropriate economic sanctions to impose upon governments, particularly if they are merely lax in enforcement of controls on precursors. This is especially true for Australia Group countries that are long-time allies and major trading partners of the United States. One can well-imagine what could happen if the United States, for example, put import restrictions on certain German goods as a penalty against the German government for taking no action as its firms sold millions of dollars in chemical weaponry capability to Iraq and Libya. Clearly such economic sanctions would be viewed as disproportionate, a probable breach of a GATT treaty obligation, and would most likely lead to escalating retaliations, thus negatively impacting United States economic and political interests.

Another major problem with existing multilateral measures is the absence of an international mechanism to determine if precursors (along

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209. *Id.* § 5602(a)(3)-(4).

210. *See* Koplow, *supra* note 50, at 74 (The most effective means available to states to resolve competing jurisdiction claims is to harmonize their underlying substantive policies.).

with other goods or technology) are being diverted for malevolent uses. The existing twenty-two-member Australia Group, although having a great deal of chemical production concentrated among them, cannot realistically monitor all sales in such a rapidly expanding and diverse global market. Realistically, much of the multilateral attempts by the leading industrial nations of the Australia Group still fall short.

In the final analysis, the current approach of applying traditional export controls to counter the problem of lethal chemical weapons proliferation fails because it is inherently flawed. It is based upon two assumptions, neither of which are correct. First, that nations such as the United States can readily distinguish the controllers from the targets of control because in the real world today's ally may be tomorrow's enemy. To assume otherwise denies hundreds of years of human history and common sense as well. One need only point to United States-Iraqi relations of the last decade to illustrate the fundamental volatility of relations among sovereigns.

Second, that since the West was successful, by and large, over the past forty years in substantially thwarting advanced technology from entering the Soviet Bloc, the western industrial nations can apply the same regime to keep lethal chemical weapons from proliferating in other countries it deems unworthy or suspect. But, unlike the narrowly focused targets of East-West controls, many technologies and chemical agents are included under proliferation controls, and they have diffused among many more nations. Accordingly, the mechanisms and the channels of transfer, while already proving difficult to manage, will become even more porous as we head into the twenty-first century. Thus, while harmonized multilateral export controls can achieve a great deal, they are not, by themselves, a definitive answer.

The 1991 Act addressed these shortcomings, but only to the extent possible by unilateral action. The Congress recognized that beyond multilateral export controls the United States must work towards a broad-based, international regime of compliance and enforcement in order to effectuate the stated policy objective and, importantly, to lessen the negative economic impact to United States business. On the other hand, the 1991 Act can only provide a general framework in which to build a multilateral consensus for compliance and enforcement mechanisms. So, while not an answer to this dilemma, the 1991 Act has at least signaled to others the seriousness of United States intentions to promote and create international mechanisms equal to the objective of controlling the proliferation of chemical and biological weapons and their precursors.

B. The Draft Convention

The Draft Convention is the most comprehensive, far-reaching response by the international community to arms control.[211] Both scope and intent are well beyond the international norm against first use set by the Geneva Protocol. In addition to renouncing all use of lethal chemical warfare, the Draft, recognizing the continuing dangerous levels of proliferation, mandates several exacting obligations of contracting parties. All production and stockpiling of chemical weapons are forbidden,[212] and once in force the contracting parties will have ten years to destroy entirely and dismantle their chemical weapons arsenals and facilities.[213] A detailed accounting of specific chemical weapons capability existing within each territory[214] must be provided within thirty days after the treaty enters into force, as well as continued yearly updates.[215] Further, parties are required to furnish updated information on dual-use chemicals that may be adopted for military uses.[216] To safeguard states' compliance with these obligations, the Draft creates, as independent authority, 'The International Inspectorate,' which will have the right to unimpeded on-site inspections.[217] Lastly, the Draft mandates that no party shall "assist, encourage, or induce, in any way, anyone to engage in activities prohibited to the parties."[218]

Mindful of the present state of affairs, this is an impressive effort to bring chemical weapons under a complete international ban. The Draft rightfully rejects the deterrence model of the Geneva Protocol as outmoded and incapable of containing the global threat that such weapons present today. It recognizes that chemical weapons are unique, and unlike

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211. *See* Koplow, *supra* note 50, at 21; *see also* Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament, CD/881, Feb. 3, 1989 [hereinafter Report of Ad Hoc Committee].

212. Report of Ad Hoc Committee, *supra* note 211, arts. I.5., I.6.

213. *Id.* arts. IV.5., V.8.

214. *Id.* art. III.

215. Koplow, *supra* note 50, at 55 ("[S]uch information will include locations, quantities, and inventories of not only chemical weapons but also disclosure of ownership, operation, capacity, layout, and equipment of every chemical weapon plant.").

216. *Id.* (Reporting requirements encompass statistical information concerning each facility's production, consumption, and imports and exports of controlled chemicals.).

217. *Id.* at 55-56 (Parties will be bound to allow such continuous inspections throughout the period of installations of automatic instruments wherever chemical weapons are produced and stored to ensure that only appropriate functions are continuing.).

218. *Id.* at 56.

conventional arms, that the potential exists for unleashing vast devastation and structural changes to the natural order. Once the treaty goes into force[219] it will carry great weight in the international community, both politically and legally. The more signatories, the more moral force will be gathered, making it that much harder for any one nation to use such weapons without incurring the collective wrath of the civilized world. To the extent that contracting states will be sanctioning an elaborate and quite intrusive regime to ensure compliance, this will resolve the inherent conflict of intervention in the internal affairs of individual sovereign nations. No single nation will be intruding into the domestic affairs of another; rather contracting states will relinquish some sovereignty in return for an international authority that will ensure verification. This will tend to enhance and reinforce the international legal order because the treaty is rooted in consensus, not coercion. With a widespread, harmonized policy, the dilemma of regulating the MNEs, key players in the international chemical market, will be largely averted. Moreover, only the weight of an aggressive enforcement regime coordinated and carried out collectively will curtail individual states while fairly allocating the economic burden such enforcement may well entail. Lastly, from a legal perspective, the conclusion of a treaty, undertaken by many of the leading nations, will contribute to progressive law by evidencing widespread state practice. In time, even non-signatories will be held to the international norm that eventually develops under the Convention regime.

C. Some Final Reflections on a Total Ban

The concept of a total ban on armaments is not new in international arms control but, as the Biological Weapons Convention demonstrates, it has been more elusive in fact. We know that even when nations are in relative agreement as to the immortality and repugnancy of certain armaments, such as biological or chemical weapons, they face a major dilemma. Should a total ban be sought, and if so, how best to provide for verification and enforcement procedures that will engender trust and adherence, which is so crucial for compliance and without such teeth a deterrence capability, such as permitted under the Geneva Protocol, serves as the only realistic alternative.[220]

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219. *See* James M. Markham, *Chemical Weapons Talks Facing Tough Hurdles*, N.Y. TIMES, Jan. 19, 1989, at A10 (The Draft Convention will enter into force upon the ratification of sixty nations.).

220. *See* Koplow, *supra* note 50, at 23 n.78.

While it is beyond the scope of this paper to conceptualize, categorize, and evaluate various procedures for verification and enforcement, some comments and observations of a more general nature can be articulated.[221] The Draft Convention is the first serious attempt by our global community in seventy years to tackle difficult and intricate problems that must be addressed.[222] It seems clear that only a complete ban can halt the scientific march into the unknown. Unlike nuclear weapons, which stand as a powerful harbinger of what might come, the time and opportunity to put the chemical weapons genie back in the bottle still exists.[223] Yet because chemical agents, such as dual-use precursors, and facilities for production and development are so widespread and adaptable, no arms treaty can remove all risk—some risk in a verification regime is inescapable. The task is to strike a balance of acceptable risk, as the Draft attempts to do. Even if the notion of structuring an arms treaty on less than a full ability to verify compliance is considered anathema to long-held views on arms control, it must be emphasized that the goal is a total disarmament convention, not an arms control regime, and as such, new and creative thinking must be applied. The concept of an Independent Inspectorate is an excellent example and provides a new means to achieving the confidence building that is so important to overall success. Additionally, in formulating what is acceptable risk it seems entirely appropriate to take into account that conventional armaments are already a significant deterrence factor, at least for those nations like the United States that have well-developed conventional arsenals.[224] Can one reasonably doubt that the extensive array of conventional weapons amassed against Iraq in the recent Persian Gulf War was not a major deterrent when Iraq assessed the risks in choosing whether or not to use chemical warfare?

Beyond this, one need only look to the alternative and the current *status quo* under the Geneva Protocol to weigh the risks of passivity, even if only imperfect compliance is possible. Although, to this point, there are no chemical arms that can alter the natural order or that are as devastating as nuclear arms, the prospect is chilling to ponder. Common sense dictates

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221. *See generally* Koplow, *supra* note 50 (for a detailed discussion of the compliance regime as laid out in the Draft Convention and how extraterritorial assertions of jurisdiction may be applied to it).

222. *See id.* at 4.

223. *See* Elliot Meyrowitz, *The Opinions of Legal Scholars on the Legal Status of Nuclear Weapons*, 24 STAN. J. INT'L L. 111 (1988) (Some commentators have challenged nuclear weapons as possibly unlawful under the laws of war since they can annihilate entire civilian populations and have the capability to effectively destroy the world.).

224. Presumably, this is why nations, especially weaker nations, form military alliances.

that if the international community continues to allow scientific development, nuclear-strength chemical weapons could well be the ultimate result—just as continuing proliferation of existing chemical arms provides greater opportunity for their use.

For the first time, private interests must also be subject to whatever compliance regime is instituted. While this is crucial, there also needs to be a careful analysis to distinguish among those measures necessary to prohibit development and spread of dangerous precursors, and those that would unduly inhibit legitimate commercial concerns. For instance, adequate protection of commercial secrets and customer lists is imperative, otherwise we impair an important industry.[225] Additionally, mandatory harmonized export controls for all signatories must be part of an overall regime to harness effectively dual-use precursors.

In contemplating an effective enforcement regime, force must be ruled out from the outset. The ends rarely justify the means, and allowing violence will only foster more of the same. Rather, there are many sanctions that can promote sufficient disincentives for state or private actions that seek to circumvent the obligations of a disarmament treaty. The key is that such measures must be applied consistently and uniformly by all signatories.[226] One obvious rule of thumb is to fashion levels of sanctions that are at once reasonable and proportional to the actual violation, yet swiftly and decisively carried out. Here again, an international mechanism must be in place that can independently verify whether

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225. The International Inspectorate as set out in the Draft Convention would seem well-suited as an honest broker and, with appropriate safeguards, able to protect confidential information and technology belonging to commercial chemical concerns. *See* Koplow, *supra* note 50, at 61 n.273 (noting that it is also wise to be cautious for political reasons as the chemical industry in the United States would be a powerful adversary for any arms control effort, as it was against the Geneva Protocol in the 1920s; but the chemical industry so far has been supportive and has aided the United States in developing measures to execute an effective solution in addition to being actively involved in the draft negotiations).

226. *See supra* notes 100-03. There is a recognition among nations that economic sanctions can be an effective means of influencing the behavior of a targeted state. There are even a minority of commentators who argue that economic sanctions can effect a state to such a degree so as to amount to economic coercion and possibly violate of the United Nations Charter. U.N. CHARTER art. 2, ¶4 (prohibiting threat or use of force against any nation in any manner that is inconsistent with the Charter). Thus the scope of the term "force" would include economic coercion. *See* Henderson, *supra* note 100, at 180-97 (arguing that a more expansive reading of Article 2, paragraph 4, albeit a minority view, would find the United States in violation of such with regard to its actions towards Nicaragua).

chemical weapons have been used or whether prohibited research and development is occurring.

None of this will be easy. Invariably, problems will arise over whether a party is breaking an obligation. In the case of Rabta, Libya, where western technology was enlisted to build a chemical weapons facility, would a penalty against the German firms who violated domestic controls be sufficient, or should Germany be held strictly liable? And if not, where should the line be drawn beyond which a state may not cross? And lest the United States be too eager to draw that line, one need only point to the current allegations that the United States intentionally condoned billions of dollars in agricultural credits that went directly to an Iraqi weapons build-up to realize just how difficult it will be for potential signatories to define what are acceptable boundaries. Perhaps the situation in Iraq best illustrates the extreme difficulty the international community faces when attempting to enforce verification compliance on a recalcitrant nation. Under the terms of the cease-fire in the Persian Gulf War, Iraq was required to scrap all nuclear, chemical, and biological weapons and facilities and to allow independent United Nations verification of their total destruction.[227] Yet over a year later Iraq has been intentionally thwarting the United Nations by not fully disclosing such weapons and facilities, presumably in hopes of hiding them and thus clandestinely carrying on its weapons program.[228] To its credit, the intransigence and obfuscation of

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227. *U.N. Security Council Declares Cease-Fire Ending Gulf War*, WASH. POST, Apr. 12, 1991, at A32 (This reported on United Nations Security Council Resolution No. 687, which established a permanent cease-fire in the Persian Gulf War, continued the embargo on all nonessential civilian goods, and compelled Iraq to surrender all weapons of mass destruction, including its stocks of poison gas, biological weapons and materials; as well as mandating that Iraq foreswear any related research and allowing the destruction of weapons research and production facilities. The terms of No. 687 also set out a 120-day timetable for Iraq to list all the locations, amounts, and types of all its chemical and biological weapons; for the United Nations to develop a plan for inspecting and destroying all Iraqi weapons of mass destruction; and for the United Nations Security Council to create new measures for enforcing the existing arms embargo against Iraq. *See also U.N. Experts Set to Inspect Iraq's A-Sites; Visit a First Step in Arms Destruction*, WASH. POST, May 16, 1991, at A34 (reporting that a 34-member team of international specialists had arrived in Iraq for a week of onsite inspections of nuclear weapons and that an inventory and destruction of Iraqi chemical weapons would occur later; and that Iraq, under the United Nations mandate, had reported a chemical weapons arsenal considerably larger than previous United States estimates).

228. *The Inspector Calls*, ECONOMIST, Sept. 28, 1991, at 45 (This reported on the bus siege by Iraq on United Nations inspectors of the International Atomic Energy Agency when officials attempted to leave with documents that directly evidenced a superior Iraqi nuclear capability and that such an affront to the United Nations could not go unchal-

Iraq has been met by a stiffened resolve by the United Nations and the Security Council. Iraq has remained under a virtually total economic and trade embargo since it first invaded Kuwait in August 1990, and the legitimate threat by the Security Council to use military force to ensure compliance with all United Nations resolutions is finally compelling Iraq to capitulate, albeit slowly and in piecemeal fashion.[229] Thus, through deliberate and widely adhered to concerted action, Iraq has been successfully isolated and its aberrant behavior rightfully punished and condemned. This in itself is an important achievement for the international legal order.

The unfolding of the Iraq drama also illustrates the increased credibility and stature of the United Nations, which has set new precedents and advanced the international legal order. The unanimous resolve of the Security Council to force Iraqi compliance is impressive—notwithstanding that it is in part the consequence of the changing dynamics between the two superpowers resulting from the dramatic changes underway within the Soviet empire. For the first time since World War II, Russia and the United States[230] are allied in coercing a renegade nation to bend to the superior will of a united community. It is now realistic to contemplate a continuation and strengthening of the unity in the Security Council, which leaves open the possibility of a vastly more powerful United Nations Moreover, with the United Nations now a more pivotal player, one can envision that through its collective determination, sanctions will have a greater likelihood of achieving selective objectives, when in the past, sanctions have proven difficult to apply multilaterally. The efforts of the

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lenged. Thus, the Security Council demanded that Iraq release the inspectors with all the documentation, while the United States positioned itself for a military reaction if needed.).

229. *Iraq Accused of Not Meeting U.N. Deadline*, WASH. POST, July 26, 1991, at A28 (reporting that Iraq was not fully complying with the United Nations requirements and had not provided all the information about its weapons of mass destruction as mandated); *see The Inspectors Calls*, *supra* note 228 (reporting that during this week Iraq had risked armed confrontation with the United States and allied forces in an effort to protect Iraq's nuclear weapons program and surmising that Iraq hopes that with enough obstruction and delay the coalition will tire); *see also* R. Jeffrey Smith & Michael Z. Wise, *Report Shows Extensive Iraqi Nuclear Effort*, WASH. POST, Oct. 5, 1991, at A1 (reporting that United Nations inspectors, after seizing Iraqi nuclear program documents, found that Iraq's nuclear program was "supported by broad-based international procurement efforts"); *see Damned Elusive*, ECONOMIST, Oct. 19, 1991, at 46 (This reported that another team of inspectors from the United Nations arrived in Iraq believing that a still undiscovered, undeclared nuclear weapons site probably exists. This resulted from the Security Council vote on October 11, 1991, extending indefinitely its inspection-destruction regime due to Iraq's obstructionism.).

230. *See* Koplow, *supra* note 50, at 4 n.8, 9, 23 n.79.

United Nations and Security Council to render humanitarian aid and protection to the Kurdish population of Iraq when they were faced with the possible annihilation also signals that the international community may be more apt to discount the sanctity of territorial sovereignty when millions of civilian lives hang in the balance. Thus, a new international minimum standard may be evolving in the area of human rights.[231]

All this bodes well for achieving a strong chemical weapons convention with an independent verification and enforcement regime. With the new precedents created by the Iraqi situation, a chemical weapons treaty can provide a further opportunity to establish and strengthen collective actions and enhance the legitimacy of various extraterritorial acts. In this regard, actions under a treaty would be much like actions of the United Nations Security Council.

Finally, a word should be said about the issue of non-signatories to a new chemical weapons convention, especially when arguments will be raised to defeat a total ban based upon those who refuse to sign onto a comprehensive convention. First, it is important to emphasize that one hundred nations have signed the Geneva Protocol, and, as recently as 1989, over one hundred states gathered in Paris for a conference to deliberate on the increasing problem of proliferation. There, nations resolved to seek a total ban, and there is every reason to believe that the near catastrophe averted in the Gulf War will serve to strengthen such resolve to address fully the entire problem. Therefore, it is reasonable to suggest that the vast majority of states will sign onto a comprehensive treaty such as the Draft Convention and willingly forfeit a precious bit of their territorial sovereignty to ensure an adequate verification mechanism. Smaller and militarily weaker states have the most to gain by the increased protection offered, while stronger nations like the United States gain from the elimination of potentially greater risks down the road. As to those who refuse to sign on, the status of a multilateral convention (as discussed *supra*) that is so widely accepted is more apt to become customary international law in a much shorter time period.[232] In the interim, signatories can respond firmly with provisions in their own export controls for automatic placement of all non-signatories in a prohibited destination category that will prohibit the export of all chemical weapons capabilities and provide for monitoring of all chemical sales and technology. In this way, non-signatories will be made to pay an economic consequence for the decision to remain outside a disarmament convention.[233]

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231. *See supra* note 139.

232. *See supra* part III.D. and note 93; Koplow, *supra* note 50, at 67 n.289.

233. *See supra* note 119 (current United States law provides that chemical weapons,

VII. CONCLUSION

This article has attempted to articulate the clear and growing danger that chemical weapons present to the international community and cast some light on the forces driving this environment. Past efforts, such as the Geneva Protocol, are incapable of providing an acceptable resolution for today, and United States export controls are equally inadequate, causing more harm than good. Once viewed as aberrant behavior, lethal chemical warfare is now viewed by some states as a viable military alternative with distinct tactical advantages. Meanwhile, continual research and development ensures fertility to future generations of chemical arms.

In the aftermath of the Gulf War, the United States is in a unique position to promote the complete eradication and ban of all chemical weapons, including restrictions on dual-use chemical precursors and their further development, which will inevitably occur without such restraints. The United States should seize upon the genuine goodwill felt around the world to strengthen and build upon the international legal order. Although a complex challenge confronts the United States and the international community, collective efforts and united resolve must be applied. Even though a comprehensive treaty will not be risk-free, it is our best guarantee of global security.

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precursors, and technology are strictly prohibited for export to Iraq); *see* Koplow, *supra* note 50, at 59 n.255 (Proposals have been put forth to introduce a public blacklist of those countries that are trying to gain chemical weapons capability which would automatically trigger sanctions such as loss of financial aid and credit; the United States position is that the treaty should not enter into force without adherence by all "chemical weapons capable states.").